Rock Products

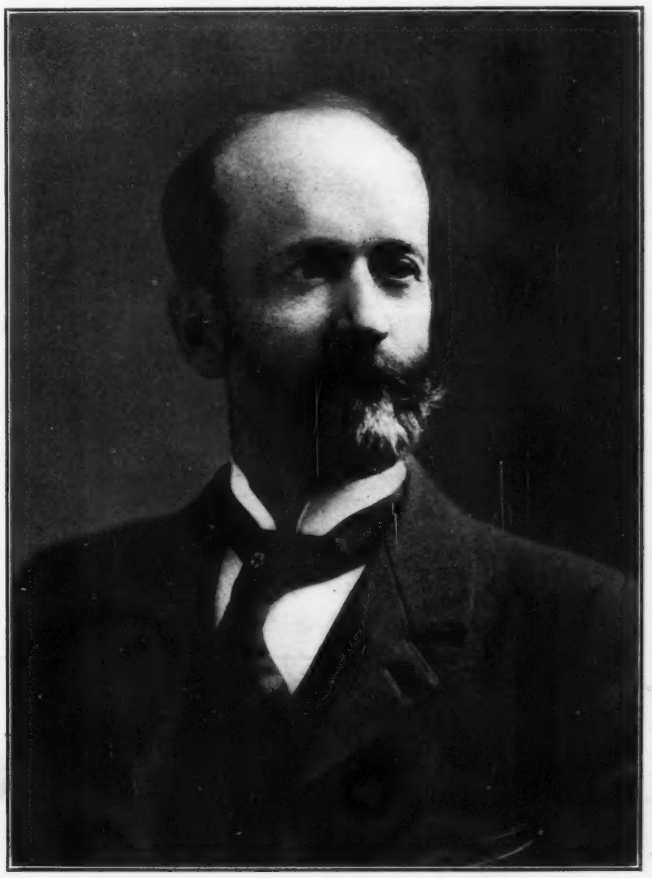
DEVOTED TO THE PRODUCTION AND SALE OF ROCK AND CLAY PRODUCTS.

Vol. 1. LOUISVILLE, KY., FEBRUARY, 1903. No. 11.

CHARLES D. WALCOTT, LL. D.

(Director of the United States Geological Survey.)

One of the institutions which has aided materially in the exploitation of the resources of the United States, during the last decade, is the United States Geological Survey, with headquarters in Washington, D. C. Since its formation as a bureau separate from the Smithsonian Institution and National Museum in 1875, it has been gradually widening and strengthening its scope until from a corps composed of the Director and a small force of men, engaged almost entirely in Washington, the Director now has under his charge a force of men over 300. These are at work in almost all parts of the United States, and since the acquirement of our insular possessions, have done considerable work in Cuba, Porto Rico and the Philippines. The amount of money at first appropriated for the carrying on of this work was $75,000.00, which has since been increased to over $1,200,000.00 and in addition, $5,000,000,-00 appropriated especially for reclaiming public lands by irrigation. This growth of the department, as regards money appropriated, shows practically its increase in importance to the country at large. The first Director of the Survey was the late Maj. John W. Powell, who in 1893 left the Survey to take charge of the Bureau of Ethnology, and was succeeded by the subject of this sketch. Mr. Chas. D. Walcott, L. L. D., the present Director of the United States Geological Survey. Mr. Walcott, a native of New York State, was educated in the public schools at Utica, and always had great interest in geology, and especially developed a taste and interest in the Cambrian rocks and fauna of the United States which he made his chief study. In 1876 he was appointed Assistant in charge of the New York State Survey, and remained in this position until his appointment as Assistant Geologist in the United States Geological Survey in 1879. In this connection he was interested in and did a large amount of field work in Southern Utah; in the survey of the Eureka District in Nevada; in the geology of the Grand Canyon; in the Cambrian geology of New York and Eastern Vermont and later work in the Deer Creek coal fields of Arizona, and also paleozoic work in Central Texas. From 1888 to 1893, he worked as Paleontologist in charge of the invertebrate paleontology. From 1893 to 1894 he was geologist in general charge of geology and paleontology, and in 1894 took charge as Director of the United States Geological Survey, a position he still maintains. Mr. Walcott, in his scientific work and in his work connected with the Geological Survey, has published many articles, among which are The Trilobite; Paleontology of the Eureka District; The Cambrian Faunas of North America; The Fauna of the Lower Cambrian or Olinus Zone, with many other papers and reports on geological and paleontological subjects. He also presented in 1888 a paper before the International Geological Congress at London concerning his Cambrian researches.



CHARLES D. WALCOTT, LL. D.

Mr. Walcott is, however, perhaps as well known in the scientific world for the spirit of organization and reorganization that he possesses, and his ability to formulate plans and see that they are carried out. Mr. Walcott, in January, 1897, after the death of Dr. George Brown Goode, of the National Museum, became the head of this Institution, with the title of Acting Assistant Secretary of the Smithsonian Institution, a position which he held until July, 1898. When Mr. Walcott took charge, the Museum was in a greatly overcrowded condition, and his chief work here was entire reorganization, with the result of making provision for much more space.

In 1899, the Washington Academy of Science was incorporated, and Mr. Walcott became the first president, a position which demanded scientific management, good organization, and administration; for this society was a combination of various scientific societies of Washington which had been founded some time, and whose work overlapped, and led to the foundation of one body working in co-operation. These separate societies are now called the affiliated societies of the Academy. It was while president of this Society that the conception was formed of carrying out the ideas of Washington, of establishing at the capitol a National University, and Mr. Walcott had taken much interest in the establishment of a Washington Memorial Institute as a Washington National University, until Mr. Andrew Carnegie presented $10,000,000,00 to this city for the founding of an institute. This Washington National University was then merged with Mr. Carnegie's scheme, the whole becoming known as the Carnegie Institute of the city of Washington. As Mr. Walcott occupied such a prominent position in regard to the Washington Memorial Institute, he was made a member of the Board of Trustees and also Secretary of the Institute.

Mr. Walcott, since undertaking the position as Director of the United States Geological Survey, has worked steadily to enlarge the uses of this Bureau and extend its scope to the advantage of the people of the country generally, who were interested, not only in the general geology of the country, as including the structural formations to be found in the United States, but in the practical knowledge of these formations. For this work, it was necessary to have a trained force of men in order, as far as possible, to develop and devote themselves to and carry out the work of Economic Geology, rather than pay as much attention to theoretical problems of general geology, which

[Continued on page 16.]

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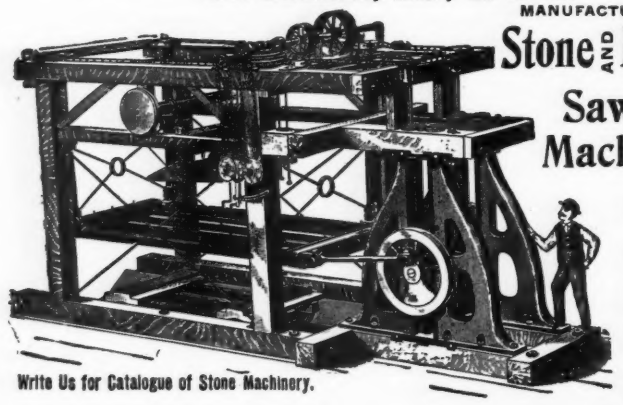

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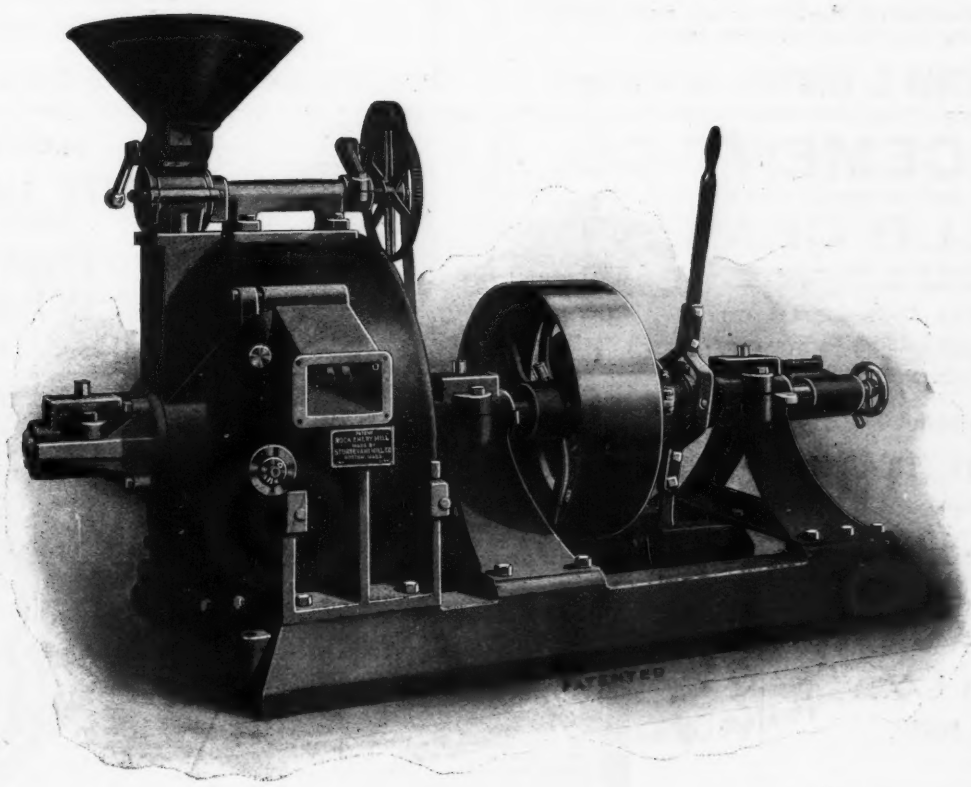

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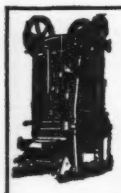

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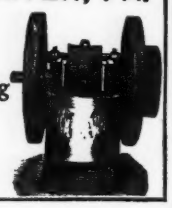

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The mission of ROCK PRODUCTS is to serve the trade in any and every honorable way possible, to promote better profits and make life more pleasant for those engaged in the business to which it caters. With this end in view, criticism is courted, and all are invited to use its columns to further ideas and suggestions for the good of the trade. The office, too, is at the service of the constituents of this paper; so when you want to buy or sell, or merely ask a question, write, and when you are in town, call and make it your headquarters.

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LOUISVILLE. KY., FEBRUARY, 1903.

OUR SLATE.

WORK TOGETHER.

With co-operation between manufacturer and dealer more profits will accrue for both.

Now let us have a national plaster manufacturers' association. The call has gone forth for a meeting at the Hollenden Hotel, Cleveland, Ohio, February 17, and the presence of all plaster manufacturers is desired for the purpose of forming an association.

SPEAKING of stone crushing, how much do you figure it costs you per cubic yard to crush ballast?

If you manufacture lime,
Why don't you get in line?
It will be a gold mine,
If the Association you jine.

THE Association season is on, and so far the meetings have been enthusiastic.

THIS ought to be a good year in the slate quarries, for it starts off with a demand in excess of the supply.

REPORTS state that the picture monument is headed toward the United States from abroad—have you heard about it?

IF your trade has no National Association it ought to have one, and if you want to help bring one about, write this office.

EVERY manufacturer of lime should always keep in mind that it is a part of his duty to spread the doctrine of lime for agricultural purposes.

OIL for fuel had a hand in the introduction of the rotary cement kiln, but was pushed aside by crushed coal, and now it looks like oil may have another inning.

THE slate industry of Arkansas is giving promise of coming to the front in great shape, and we expect to have a description of this interesting slate field next issue.

THERE does not seem to be any stock of cement accumulating, and if the building season opens up with a lively demand, the increased capacity in the field will be needed.

UNCLE SAM'S eagle, and "Made in America," is proposed as a mark for American made pottery. It's a very good thing for a trade mark and should be pushed along.

THERE are quite a number of stone people, sand people, brick people, and other people inquiring into the subject of sand bricks and their manufacture.

ONE manufacturer estimates that there was over fourteen million barrels of Portland cement manufactured in 1902. We would like to hear from others in the trade on the subject.

THERE seems to be an active call for asphalt lands, and if the projects in hand now carry through, we may expect quite a lot of development in the home asphalt fields during this year.

IT will be well for architects and builders to keep an eye on the developments of the marble resources in the South and West, because there are some fine marbles promised from these resources.

THE more we look into the matter the more retail dealers in building material we find interested in handling fertilizers. Fertilizers is a mighty good subject, and it needs airing a little to help it grow.

WHAT do you know about roofing? This is the time of the year when the roofing question ought to have some thought, because it is the time when there are the most complaints about leaky roofs. We give a liberal amount of time and thought to the question of foundations, and now it is in order to ask if it would not be appropriate to give a little more attention to the question of roofs. We would be glad to hear from manufacturers of roofing in regard to the particular quality of certain kinds of roofing for specific purposes, and we will also be glad to hear from dealers in builders' supplies on the subject of roofing. Every dealer naturally wants to handle that which is best, all things considered, for his constituency, and there is no better way to get light on the subject than by exchanging ideas.

THE indications now are that quarry operations will take an early spurt this spring, for the active demand of last fall made a pretty close clean-up of the rough stock on hand and there will be an early effort at replenishing.

ASPHALT is a greatly talked-of material these days, and it deserves to be better known and more extensively used, but, unfortunately, much of this free newspaper advertising it gets is tainted by contact with municipal wrangles.

THE statement has been made that cement is shipped from Germany to Chicago at the same freight rate per barrel as is charged from New Jersey, and still our friends across the water seem to be shy on profits in the cement business.

IF you have an architectural friend who says he is not able to find what he wants in American marble, tell us about it, for we know the marble is in the country, and it is a part of the mission of this paper to help bring it to the notice of purchasers.

NOT only is the crushed stone industry growing rapidly, but the use of the finer ground material, especially in limestone, is spreading out wonderfully, too. The greatest drawback is that grinding fine takes lots of power—and wears out machinery at a great rate.

OCCASIONALLY we hear of some stone man complaining that the concrete business is ruining the stone business, but it looks to us like there is still room for both, but if concrete is wanted to the extensive exclusion of stone in your locality, why not go into the concrete business?

IN reply to an editorial last month on the trouble of handling long columns of stone in a lathe we have had several suggestions pointing to the advisability of working such columns in an upright position, and also an itimation that there will soon be special machinery on the market for just such work.

OUR readers and advertisers have been saying nice things about ROCK PRODUCTS right along, for which we are very thankful, and we beg your indulgence while we say that it is pleasing to know this paper has already become the official organ of two associations in the trade. Read the accounts of the meetings of these organizations in this issue, and then join the good work if you are in the branches of trade represented? If you are not, and you feel that your particular branch is in need of an association—which every industry is ——just write us about it and we will take the matter up with the other follows.

SOMETIMES a city or county concludes to embark in the stone business on its own account; in fact, they do it too often, but there is some satisfaction in the knowledge that they sometimes wake up to the fact that it is cheaper in the end to let some individual run the stone business and make a little profit for his trouble. In the report of an instance of this kind before us now this realization seems to have come through damage suits against a city for damage on account of an accident that crippled a boy, and there is a suggestion in this, too, for the individual operator, accidents will happen occasionally, and they call for expenses, which are a part of the expenses of operating such a business that is frequently overlooked in making estimates of the cost of operating in order to establish a basis for figuring prices.

From Our Own

Correspondents.

NEW YORK.

NEW YORK CITY, January 24.—It is a very nice question as to where the credit is due for the inauguration of the steel frame-work building. It is universally conceded that Chicago went ahead most energetically with it at first, but New York claims the inception of the system, and, to that end, has taken the bull by the horns and placed a tablet to that effect on the Tower Building in lower Broadway. The Chicago builders dispute the accuracy of the claim of origination embodied in the inception, but be that as it may, there is no question of the incipiency here of the ordinary one floor apartment.

There died recently in this city a builder named Fitzgerald, who made the first "French Flats" as they were then called. They were a big innovation at the time and grew in favor slowly. They consisted of two floors, altered in a private house, and were the prototype and fore-runner of the elaborate apartment systems of the day. In California they have a monument to the man who first discovered gold there, and one is projected in the Pennsylvania oil fields to the first discoverer of oil in that region, and it would not seem inappropriate to perpetuate some reminder of one who inaugurated a system of living which is a lasting feature of its domestic economy.

A number of large lime dealers report their full capacity engaged for the coming year on advance contracts. The demand for lime here is so extensive and the supply is so correspondingly large and with so many sources to pick from, that it is becoming more and more narrowed down to a question of quality. It is not just simply lime, any more; it is the best lime. The makers understand this, and are rivaling each other in their efforts to produce a superior article, and this result is helped along by the improved processes which the chemists, engineers and inventors are continually working at and perfecting.

Lime, like cement is just now a little quiet, but steady. In cargo lots, Maine common, runs per barrels at 75@77c. Maine finishing, 95@97c. State common, 75c.

The market for cement is a little off and prices are a little slower, owing probably to the slight cessation of building operations due to the cold weather. This is only a temporary condition and does not affect the mills, which are all running full time to meet the market for the coming year's business.

Rosendale, car lots, per barrel has run at 90c@$1.00. American Portland at $1.90@2.25, and the imported, both on dock and on the way, at $1.90@2.50.

The brick trade is quiet especially in the lower grades, but the best grades, including the best of Hudson Rivers, are steady. The receipts are sufficient to meet the current needs.

In cargo lots, delivered, cars New York front, white, cream, buff and gray run at $4.50@5.75. Common at $4.75@5.75. No. 1 fire $25.00@30.00. No. 2 fire $23.00@28.00.

Hollow brick, common size, $6.00@7.00. Croton Point Fronts, W. A. U. reds, darks, browns $12.00.

Mr. Charles Warner took a run into town from Philadelphia recently and incidentally reported that he had had great success with the Sturtevant Exhauster on his Phillipsburg kilns. The output has been largely increased with no perceptible increase in labor. It was a proposition of just making the electrical connection and letting her go. Had there been a separate engineer the economical results would not have been quite so great, of course, although the practical results would have been the same, but worked as it was with the electrical power, it proved a most decided success.

I dropped in on a manufacturer of building materials the other day who had a big growl on tap against the dealers. It was, the dealers have been coddled too much and earn their commissions too easily. They don't do near as much work as they ought to. They get the manufacturers to send a man for a good stay in a town to work it up, and they promise to supply a local man to pilot him around to the architects, contractors and all consumers. As likely as not, the local man does not eventuate and the affair becomes comparatively a flash of the pan when a little more co-operation on the part of the dealers would have made a success of it all around.

The total value of contracts awarded on new buildings throughout New England for the week December 20 was $1,246,000.00, as against $1,022,000.00, for the corresponding week last year, making a total of $132,343,000.00, to date this year, as against $131,008,000.00, for the corresponding period last year.

For a smooth pavement, asphalt has had the preference of late years, but it has so many disadvantages in wet weather, that they are trying a bituminous macadam pavement in Yonkers which has many miles of asphalt. The broken stone is coated with bituminous cement and rolled, and so on in layers of different sizes, till the top dressing exactly resembles a fine macadam pavement. This presents a gritty surface on which the slipping of horses or rubber wheels is impossible. The bituminous cement so thoroughly repels water, which is so generally destructive to the life of other pavements, that none can enter. It becomes practically a monolithic pavement. It is expected that next spring part of Seventh Avenue, New York City, will be laid with this bituminous pavement and New York will then have a chance to give it a test and judge of its merits.

The outlook for the slate business in 1903 is that the supply will not begin to equal the demand, so says a prominent slate agent in New York. He said: "I don't know where I am at. I cannot begin to get enough to fill orders. Last week I turned down an order of 200,000 square feet. It was no use to take it, as I could not supply it. I have made an offer for the entire output for the year of a new quarry, and if accepted it will not bring me out even. The demand is good and steady, and prices have gone up 30 per cent., but if prices get too high then there will be a reaction and consumers will use cheap marble."

QUINCY.

QUINCY, MASS., January 26.—During the month of January interest in the granite trade centered in the outcome of the conferences between the committees representing the Manufacturers' Association and the local branch of the National Granite Cutters Union. The two committees, after several sessions, have completed their labors, and an agreement was reached in all but one clause. That proposition will be referred to a board of arbitration, consisting of three men, the manufacturers and cutters to choose one individual a piece, and the third to be picked by these two men.

The clause upon which the committees failed to agree was that offered by the manufacturers, which says: "That in case a stone is spoiled by a day workman, through carelessness or negligence on the part of said workman, he shall not be paid for work already done upon the stone." There is a similar clause in the bill now in operation, which applies to piece men only. Heretofore, the day workman, in the event of his spoiling a stone, considered himself immune from the loss entailed. The manufacturers desire to include day men, as well as piece men in the question at issue. The problem will be solved in whole or part by the board of arbitration, which must render its finding on or before February 25, 1903.

The bill of prices as agreed upon by the two committees goes into effect March 1, 1903, and briefly calls for an advance of five per cent. on all items in the bill of prices. It likewise provides that the pay for a day's work for an average workman shall be increased from $2.80 to $2.94 per day. The minimum rate for a day's work remains the same as formerly, namely $2.64.

A new clause in the bill provides that all apprentices shall be registered. That is, a record of every apprentice shall be kept, the date upon which he began to serve his time, where he has work and the length of time he has been employed. This record shall be open at all times to the inspection of the Union or the Manufacturers' Association.

It will then be known when all apprentices are eligible for graduation into the journeymen's class.

Relative to the blacksmiths, but one clause in their bill will go to arbitration. It was not until Tuesday, January 20, that their grievances were properly adjusted. The item in the bill which failed of agreement was the one desired by them in relation to surface cutting machines. They asked that these machines be classed as five men. It is a matter entirely new to the committees and they deemed that equitable settlement could best come through arbitration. The blacksmith agreement will run for two years and in brief is as follows: Their pay shall be $2.90 per day, as formerly, while the matter of the hire and discharge of apprentices was left at the discretion of the employer.

Returns in shipments from the three railroad terminals for December, gives the total of 1902 as 135,337,557 pounds, against 215,762,042 pounds of rough and finished granite shipped in 1901. These figures do not include the amount of granite shipped in teams, which is impossible to obtain, or the 55,000 tons of rough stock used in the construction of the ripraps and breakwater for the outlet of the metropolitan sewer at Houghs Neck on the city's waterfront. As a whole, business in 1902 was all that could be expected, and manufacturers are sanguine of surpassing these figures at the close of 1903.

The shipments for December were distributed from the various depots as follows: Quincy Adams, 3,459,208 pounds; West Quincy, 3,718,748 pounds; and Quarry Railroad, 1,713,170 pounds. Total, 8,891,126 pounds.

John P. McDonnell, of the firm of McDonnell & Sons, was married in Buffalo, N. Y., January 14, to Miss Constance Monica Dormer. Bishop Quigley, lately appointed Archbishop of Chicago, tied the nuptial knot. The employees of the local branch of the firm were not forgotten on the day marking the glad event. A half holiday was granted them, without loss of pay, and at night all partook of a banquet provided by the firm in Nilson's Hall, this city.

Barnabas Clarke, a former well known resident of this city, and for years identified with the granite industry, died at his home in Dorchester (Boston), Mass., on the morning of January 23.

Mr. Clarke was born in Ireland in 1843, and came to Quincy in 1868. He worked first in the quarry of Frederick & Fields, and later for Henry Barker & Sons. He learned the trade of granite cutting from Charles R. Mitchell, and followed his trade here and at Dix Island, Me., until 1874, when he started in the liquor business in Boston.

He had a strong attachment for Quincy and during life invested much of his wealth in the development of the granite industry.

He was one of the incorporators of the Quincy Quarry Railroad Co., which was opened for business September 8, 1894. He also was one of the directors of the Leyons Granite Co.

Mr. Clarke was one of the incorporators and directors of the Prout Bros. Granite Co., of which at the time of his demise, he was president and treasurer. At one time he was treasurer and director of the Quincy Quarry Railroad Co.

He invested largely in real estate and opened large tracts of land for building purposes in the heart of the quarry district. Deceased left a widow and daughter. The funeral was held January 25, and was largely attended. The interment in Mt. Wollaston cemetery, this city.

The annual meeting of the Granite Railroad Co. was held in Boston January 20. The following directors were chosen: John A. Lamson, Robert B. Williams, William S. Patton, Henry M. Faxon, George A. White, Luther S. Anderson and John A. Stanton. J. A. Lamson was elected president, W. S. Patton vice president, J. Albert Simpson clerk and treasurer, and L. S. Anderson superintendent.

At the annual meeting of the Merry Mount Granite Co. the following officers were elected to serve during the ensuing year: President, James H. Sullivan; clerk, Michael B. Garey; treasurer, John C. Kapples; agent, Patrick W. Driscoll. Directors: The afore mentioned by virtue of their office, and Enos S. Costa, Lemuel J. Myers and John McTiernan.

CHICAGO.

CHICAGO, ILL., January 23.—This is the dull season in rock product lines, but it is certain that business will wake up in the early spring to an unparalled extent, at least there is a feeling among dealers in rock products that in all lines of trade 1903 is sure to be the banner year. Quite a number of large contracts have already been made in the building line, and the demand for concrete, brick, lime, etc., promises to be very large.

The Delaney Stone Co., which has its plant at Sag Bridge, Ill., but headquarters in this city, upon the application of forty-four laborers, has been placed in the hands of Mr. Charles Boyd, as receiver. The men claim the company owes them $4,700.00.

Dolese & Shephard, the crushed stone firm, came to the front promtly during the severe cold weather, when the poor of the city were suffering severely for want of coal. They tendered free the use of a number of their wagons to haul the coal given gratuitously to the poor people.

During the month of December just passed permits were taken out for the construction in Chicago of 301 buildings, fronting 10,194 feet, and involving an expenditure of $2,457,100.00—an increase of a little over $1,000,000.00 from the corresponding month in 1901.

Mr. P. W. Gates, formerly of Gates Iron Works, and son of the original P. W. Gates, inventor of the famous Gates' Rock and Ore Breaker, was recently elected by the Board of Directors of the Allis-Chalmers Co., general superintendent of the shops and third vice president. This valued and highly deserved compliment to the ability of Mr. Gates, of course was a matter of unusual interest and satisfaction to his old associates—those who were formerly members of the Gates Iron Works staffs. Before leaving the Gates Works, where he has been manager since the organization of the Allis-Chalmers Co., to take up his new work, it was proposed to his old associates and employes to express their great affection and respect for him as a man, by a banquet and present of something, which would be to him a memento of their love and esteem. So a few evenings since he was enticed into a banquet room, where he was surprised to find some twenty-five of his old employes and friends awaiting him, around the banquet table. A neat and moving speech by Mr. H. W. Hoyt, formerly secretary of Gates Iron Works, and now second vice president and general salesman of the Allis-Chalmers Co., explained the purpose of the meeting, when a solid silver punch bowl, elegantly engraved, was set before Mr. Gates. It was an entire surprise to him, and he was visibly affected, so much so that it was with some difficulty that he (tho' usually a ready speaker) responded in an appropriate and affectionate little speech.

SYRACUSE, N. Y.

Syracuse, January 19.—With the reconstruction of the plant of the Empire Portland Cement Co., at Warner, comes the announcement that a new company has been formed to purchase the property of the Warner Portland Cement Co. The name of the new company is the Mohawk Portland Cement Co., and it is capitalized at $1,000,000.00. The directors for the first year are: Thearon B. Dean, of Amawalk, N. Y.; Abraham G. Sherwood, Pasquale Francalini; Charles J. Hartman and John S. Jenkins, of New York City.

The Broughton mixers, made at the Alexander Iron Works, are having a large sale, and are filling the bill in every particular. They are equally well adapted for mixing sand, lime, paints, soap, powder, baking powder and many other substances.

During the past year the Onondaga Pottery Co. has spent $20,000.00 for new offices and a new warehouse of brick and stone, 130x40 feet. The manager reports that business has increased 15 per cent. during the year. Between 500 and 600 hands are on the payroll.

The Paragon Plaster Co. has had a successful year and business increased more than 30 per cent. Many improvements were made in the plant here and at the plant on Black River. New machinery has been installed and the sewer pipe yards have been extended. A new storehouse, 150x30 feet has been built.

The Syracuse Pottery Co. has completed a new kiln and building 100 feet long, and their business increased 25 per cent. last year.

The stockholders of the Syracuse Improvement Co., which does paving and other construction work, have elected these officers: President, P. R. Quinlan; vice president, H. W. Plumb; secretary, William Cowie; treasurer, C. M. Warner; assistant treasurer, C. B. Warner.. The officers are also directors:

Thomas F. Moore has the contract for the improvement of Onondaga Creek for $28,000.00. The city originally let it to John Kelley, who sublet it to Mr. Moore.

The Asphaltina Construction Co. will apply in court March 2, for an order changing its corporate name to The Central City Paving Co.

ASSOCIATION FORMED.

The National Lime Manufacturers Association Organize at Indianapolis.

FIRST SESSION.

The second meeting of the National Lime Manufacturers' Association was held January 19 at the Grand Hotel, Indianapolis, Ind.

As early as Sunday afternoon some of the big men in the lime business started on their journey to Indianapolis. Delegations came from as far East as Pennsylvania and Rhode Island and as far West as Missouri, and representations by delegates showed something like between 400 and 500 kilns. Canada was numbered among the delegates, but owing to the late trains of some of our friends in Indiana, the first session was called to order at 1:30.

Temporary Chairman Warner was in the chair. After hearing the minutes of the last meeting read by temporary secretary Defebaugh, the chairman stated that the committee report would then be made if it was the wish of the convention.

A. NEWTON, CHICAGO, ILL.
President, National Lime Manufacturers' Association.

On motion the objects of a permanent organization were then discussed. Among them were those stated by the chairman, namely, the betterment of methods in the manufacture of lime; the harmonizing of interests in the trade; changes in tariff in lime;and the discussion of the many subjects that would be of benefit to the individuals and the collective lime trade. He further spoke of methods as applied to special plants, and of the social feature which would benefit all.

W. B. Hill then said: "I believe it would be worth while to have an organization for the social feature alone. It seems to me that an exchange of ideas is always instrumental in preventing disastrous competition. There are many localities in the trade that want help. They don't know how to organize themselves or how to get together. A national organization would help them. We gain knowledge by exchanging ideas with our competitors, and many other good things come out of meeting toether."

A. Newton said: "I consider that great benefit is to be derived from a national organization. It comes through a better acquaintance and eliminates disasters in the trade. There are organizations in the business which might be represented by delegates, but what we want is to have every man in the lime business attend a meeting once or twice a year."

Mr. Peter Martin: "I believe in organization in these days of combinations. It isn't possible to make money unless you co-operate with some organization. My experience is derived from days when prices were high and prices were low. The local organizations are a success and it is well to be together. Handsome profits only come from working with your competitor. The local organizations now in force could be more prosperous if they were within the fold of a national body. The changing conditions in manufacturing lines make it necessary. Our product is a perishable one and should show a greater profit than many other lines. I believe an advance of 10c on a barrel of lime would not curtail the demand, because our product can not be sold unless it is needed. Therefore, if we ask a fair price, we can get it. Of course, a national organization would not be a price organization, but it would foster and be instrumental in the organization of more locals. Under the present regime, manufacturers are wearing out their plants without enough profit. Conditions should be changed through organization so that we could get a better price for our product. I am a great believer in organization, and a great believer in up-to-date methods. You can get them through the national body. It will help us to eliminate selfishness and aid in general bettered conditions. I hope we can perfect a general organization to-day.

Chairman Warner:—"I believe in getting a good profit, but too much profit increases production, and I would not like to see prices too high." He spoke of his New England Experience of very high prices in old days until competition was the intrument that brought them down to an unnatural level. He mentioned some good points about hydrated lime, and said that it was the same as cement. You can keep it in stock, and hydrated and lump lime work well together in taking care of quick shipments to the trade and stock orders.

Mr. Martin disagreed with the chairman as to the price of lime. He said that since the increase of lime kilns in Ohio and Indiana came about prices were low. He believed that in some seasons they should get better prices than in others.

Mr. Christy, of Ontario, was called on and he said: "I am very glad to be with you. I don't know that I have any right to talk at your meeting, but I would be glad to co-operate with you. Some years back we had no organization and profits were small and very limited. Fortunately twenty of us got together and have benefitted thereby. Of course we sell our lime up there by weight, but we co-operate with each other and have gained thereby. We are interested now in the use of fuel to be substituted for wood."

A. L. Beck moved that we perfect a permanent organization. This motion was seconded by Mr. Cobb and passed.

The roll was then called and a favorable word was heard from all.

Among those present were: W. B. Hill, Ash Grove White Lime Assn., Kansas City, Mo.; Thos. D. Cone, Buckeye Lime Co., Genoa, Ohio; Charles J. Eichel, Eichel Lime and Stone Co., Evansville, Ind.; Phil J. Dauernheim, Charles W. Goetz Lime and Cement Co., St. Louis, Mo.; C. W. S. Cobb, Glencoe Lime and Cement Co., St. Louis, Mo.; F. P. Hunkins and G. Willis, Hunkins-Willis Lime and Cement Co., St. Louis, Mo.; A. L. Beck, Mitchell Lime Co., Mitchell, Ind.; A. B. Keeport, A. B. Keeport Co., Indianapolis, Ind.; A. Newton, Marblehead Lime Co., Chicago, Ill.; A. H. Lauman, The Standard Lime Co., Pittsburg, Pa., and Gibsonburg, Ohio; T. E. Fleischer, Sheboygan Lime Works, Sheboygan, Wis.; W. S. Sutliff, Mgr. Seneca White Lime Co., Fostoria, Ohio; Charles B. Strunk, Strunk Meyer Lime Co., Cold Springs, Ohio; A. Newton, Union Lime Co., Milwaukee, Wis.; Charles Warner, Charles Warner Co., Wilmington, Del.; Peter Martin, Western Lime Co., Huntington, Ind.; D. D. Cristie, Wellington Lime Co., Guelph, Ontario, Can.; Chas. Harley, Delphi, Ind.; W. W. Holderfield, Muncie, Ind.; S. V. Peppel, Ohio Geological Survey, Columbus, Ohio.

Mr. C. W. S. Cobb: "If we form an organization we must keep in mind this fact: It is to be a national organization, therefore no price talking will be in order. If we get in members and perfect our organization, we can look after local organizations later. Most every trade has an organization. This is the first time the lime manufacturers ever got together, and I think it is necessary in the selection of a President of this organization that we get the right man. It is an important office. It is not necessary that he be the office man or the selling man, but he must be a man prominent in the manufacture of lime, and one who has a reputation in the trade as treating his brothers fairly. If we are to have a good organization we must have the right man in the right place. I therefore nominate one who represents one of the largest lime interests in the

West, and one who is thoroughly conversant with all branches of the business. I take pleasure, gentlemen, in nominating Mr. A. Newton, of Chicago, Ill., for your president. The nomination was made by acclamation.

In taking the chair, Mr. Newton said: "I appreciate the compliment. It is a great surprise and I do not believe you have the best man, but being in sympathy with this movement I will do my best.

Mr. E. H. Defebaugh was then nominated for secretary and elected by acclamation.

Mr. Peter Martin, Huntington, Ind., was elected first vice president; W. B. Hill, Kansas City, Mo., second vice president; Charles Warner, Wilmington, Del., third vice president; C. W. S. Cobb, St. Louis, Mo., treasurer.

W. B. HILL, KANSAS CITY, MO.
Second Vice President National Lime Manufacturers' Association.

W. B. Hill moved that the directors should be composed of representative men in each district, and this motion was amended by Mr. Beck, that it should embody the officers, who should be known as an executive committee.

In speaking of a large directory the thought was mentioned that we want the co-operation of all in the trade and a representative directory would make this possible.

Mr. Beck then moved that we proceed to organization and elect directors afterward, which was passed by acclamation.

The committee then read the constitution and by-laws.

Several suggestions were made for adoption by the committee. With amendments made the constitution and by-laws is as follows:

CONSTITUTION AND BY-LAWS

OF THE

NATIONAL LIME MANUFACTURERS' ASSOCIATION.

ARTICLE I.

Name.

The name of this organization shall be: The National Lime Manufacturers' Association.

ARTICLE II.

The Object of the Association.

The object of this Association is to promote social intercourse, discussion of all subjects of general interest to the trade, to organize and foster local associations, to promote better methods in the manufacturing and sales department of its members; also the discussion of all special questions for the advancement of the interests of the trade.

ARTICLE III.

Membership.

Any reputable manufacturer of lime shall be eligible to membership in this Association by making application and paying the membership fee and annual dues in advance, providing he has the endorsement of two manufacturers who are members of this Association, and receives two-thirds vote of the Board of Directors present at any meeting, or their consent in writing.

ARTICLE IV.

Officers.

The officers of this Association shall be composed of a president, first, second and third vice presidents, secretary and treasurer, and a board of directors consisting of not less than nine members, nor more than twenty-five members, which shall include all officers of the Association.

ARTICLE V.

Meetings.

The regular meetings of this Association shall be held in January and July, at such place as the Board of Directors shall decide.

ARTICLE VI.

Election of Officers.

All officers and directors shall be elected annually by ballot at the regular meeting to be held in January.

ARTICLE VII.

Vacancies.

In case of vacancy in any office, the same shall be filled at the next regular meeting of the Association, at which a majority of the members present shall decide by a vote taken by ballot. Pending such action the President may appoint a member from the directory to fill such vacancy

CHAS. WARNER, WILMINGTON, DEL.
Third Vice President National Lime Manufacturers' Association.

ARTICLE VIII.

Amendments.

These articles may be amended at any regular meeting of the Association, or at any special meeting by giving written notice to each member ten days in advance of such meeting.

BY-LAWS.

ARTICLE I.

Duties of Officers.

Section 1.—President—It shall be the duty of the President to preside at all meetings, to appoint special committees, call special meetings, and direct the work of the Association.

Sec. 2.—Vice Presidents—It shall be the duty of the Vice President, in the absence of the President, or ranking Vice President, to perform all the duties of the President.

Sec. 3.—Secretary—It shall be the duty of the Secretary to give notice and attend all meetings of the Association, to make a written report at each regular meeting, to keep the books and records of the Association, and to attend to correspondence.

Sec. 4.—Treasurer—It shall be the duty of the Treasurer to collect all money due the Association, and keep account thereof, to pay all bills when approved by the President, to make a financial report at each regular meeting.

Sec. 5.—Board of Directors—The Board of Directors shall have power to hold meetings at such times and places as they may deem proper, appoint committees on particular subjects on their own board or from the membership, to print and circulate documents, to raise funds and appropriate same, to employ agents if necessary, and to devise and carry into effect such measures as they may deem expedient to promote the objects of the Association, and the Secretary and all agents or servants of the Association shall be at all times subject to their direction. And an Executive Committee shall be appointed by the Board of Directors, composed of the President, Vice President, Secretary and Treasurer to facilitate the work of the body.

ARTICLE II.

Revenues.

The membership fee shall be $5.00, the annual dues $5.00. The funds necessary for special expenses of the Association shall be raised by assessment, which assessment is not to exceed $5.00 a member per annum, unless a larger sum is voted by the majority of the members present.

ARTICLE III.

Salary.

The officers of this Association shall serve without salary, provided that proper clerical help may be employed in the discretion of the Board of Directors.

ARTICLE IV.

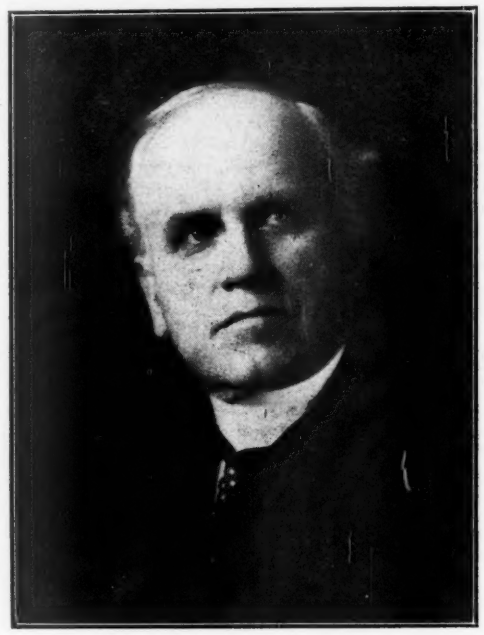
Amendments.

These by-laws may be amended or changed at any regular meeting of the Association by two-thirds vote of the members present.

On motion the following directors were elected:

J. C. Paxton, Indian Rock, Va.; R. H. Cobb, Anniston, Ala.; W. S. Sutliff, Fostoria, Ohio; Edward B. Kent, Boston, Mass.; J. C. Griffing, Danbury, Conn.; G. B. Christian, Marion, Ohio; A. H. Lauman, Pittsburg, Pa.; T. E. Fleischer, Sheboygan, Wis.; D. D. Christie, Toronto, Ont.; A. L. Beck, Huntington, Ind.; F. Hunkins, St. Louis, Mo.; E. M. Sly, Bayshore, Mich.; F. O. Gulley, Johnson, Ark.; H. P. Dodge, Toledo, Ohio; John Baker, Buckeystown, Md.; Thos. D. Cone, New Yory City; B. Gager, Sherwood, Tenn.

Mr. Peter Martin then moved that a committee be appointed by the chair to furnish the daily papers and associated press with the news of the convention.



C. W. S. COBB, ST. LOUIS, MO.
Treasurer National Lime Manufacturers' Association and Member of Executive Committee, Interstate Builders' Supply Association.

The committee was composed of Charles Warner, Wilmington, Del., Peter Martin, Huntington, Ind., and E. H. Defebaugh, Louisville, Ky.

It was moved by Mr. Charles Warner, and duly seconded, that ROCK PRODUCTS be declared the official organ of the association. This was passed unanimously.

Then followed a general discussion as to improved methods in the lime business, which were discussed at length by Messrs. Hill, Cobb, Martin, Sutliff and Warner.

Mr. Cobb then suggested that this was the proper time to discuss ways and means to get every lime man in the country as a member of this associa-

tion. He thought we ought to have some good papers at the next meeting on subjects like, "Burning Lime," "Hydrated Lime," "The Construction of Lime Kilns," and other matters in which every one should be interested.

Mr. Beck suggested that the officers take these subjects up in preparing a program for the next meeting.

C. B. Strunk: "It seems to me that there is another subject in which we are all interested, and that is, the car service problem. If the railroads allow the coal producer four days in which to unload a car there is no reason why we should not be allowed four days in which to unload a car of lime. It seems to me that some effort should be put forth by this association to co-operate with others and bring this about, if possible."

Mr. Sutliff suggested that if possible there should be an equalization of freights.

It was suggested by the meeting that this organization should lend its every energy to see that local organizations be formed in every section where lime is made.

After an interesting session the meeting adjourned until 8 p. m.

THE EVENING SESSION.

President Newton called the meeting to order at 8 o'clock and the question of increased membership in the association was talked of. It was suggested that every member present urge those not in the association to become one of us.

Mr. Sutliff then spoke as follows on lime as a fertilizer:

"Speaking of the experimental work at Pennsylvania, Rhode Island and Maryland Experimental stations on liming, and referring to history, in France and even in ancient Rome, lime has been used to good advantage for the betterment of the soil. Foreigners, in coming from the old countries in the past few years, have brought the secret way of liming in use again. It does not act like a fertilizer. The action of lime on land is a soil solvent. It disintegrates the lumpy soil. It separates the lumps more readily, cures sourness, and is of great benefit for grass and clover. We started to push our lime for liming lands two years ago, and we advertised and pushed it, and in the last year sold something like 1,500 tons. It is ground the size of a wheat kernel and shipped in wheat bags. The farmer don't want it in the bulk."

Mr. Cobb told of an experience in the East where wood lime in Maine, which was practically dumped into the refuse pile, was sold to a man at Long Island, and he made a million out of it for the gentleman who bought the refuse, but the coal in lime making killed this gentleman's lucrative business.

Among the interesting publications on agricultural lime, you will find "Storer on Agricultural Lime", in three volumes; "Fertilizers," by Voorhies; "Fertility of Land," by Roberts.

One manufacturer, in speaking of the liberality of the lime men, said that they were the most magnanimous of any catering to the building trade, and diamonds were scarce among them at that. He would like to see this association bring about conditions where all would retire when old age came on.

After some discussion, it was then moved that the next meeting of the Association be held at Detroit, on the second Tuesday in July, and the officers should arrange for such a meeting. Suggestions for program for the next meeting will be welcome.

A motion was made that three committees of three on Local Organization should be selected, with the three vice presidents as chairmen.

The Eastern Committee should be in charge of Charles Warner, Wilmington, Del., and the committee would be named later.

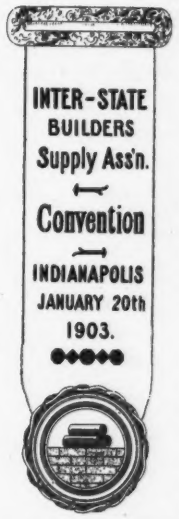
Middle Western Committee, in charge of Peter Martin, Huntington, Ind., committee named later.

Western Committee, in charge of W. B. Hill, Kansas City, Mo., committee named later.

It was suggested that it would be well for those who are in need of more organized effort in their particular section, to correspond with the chairman of the local organization committees.

On motion the greeting of this association was extended to the Interstate Builders' Supply Association, which has a meeting booked for January 20, and the delegates of the meeting take this greeting as a body.

The thanks of the association were then extended to Messrs. Charles Warner and E. H. Defebaugh. Adjourned.



THE DELEGATES from all over the country to the meeting of the Inter-State Builders' Supply Association commenced to gather on Monday, January 19, at the Hotel English, Indianapolis, which was headquarters for the next three days for one of the most intelligent body of business men we have seen together in many a day.

From the attendance, the business done and good fellowship exhibited, perhaps this was the best meeting ever held by this association, and its godfather, Secretary Richard Kind, could well be proud of this meeting.

As it followed the meeting of the National Lime Manufacturers' Association, the officers of that body conferred with the secretary of the Inter-State Builders' Supply Association, and there was an informal meeting at the Commercial Club rooms preceding the first session.

Chairman Kling, in calling the meeting to order, said:

"I understand you had a good meeting yesterday, and also that some of your members will have to leave before our joint meeting tomorrow afternoon. We have taken this occasion to greet you and exted to you our best wishes for the life of your association.

"The wheelhorse of the organization in Ohio and Indiana, Mr. Peter Martin, was then called on, and said: "It is a great pleasure to me to see this intelligent body of manufacturers and dealers coming together and endeavoring to work together on the right lines. It means that results will be attained and that prosperity can not be so easily encouraged as in this way. Twenty years ago the demand was greater than the supply. Today it is different, and as this is an association era, it is necessary to have a good organization If your association gains the united work of the dealers throughout the land in this organization, the manufacturers will be only too glad to work with them. If the manufacturers and dealers in their respective organizations will co-operate, it will mean success to all. The educational and social sides of this meeting are very attractive and good."

President Newton then said: "I don't know that I can add anything to what Mr. Martin has said. As this is an age of progress, profit comes from associated effort. You become better acquainted and results follow. Intelligent competition is necessary for the success of any manufacturing business to-day, and I trust that the National Lime Manufacturers' Association will be able to co-operate with yours for the general success of all."

W. B. Hill: "Organized effort will mean that the manufacturers will get out of the way of selling consumers. More organization in our trade is necessary and desirable."

C. W. S. Cobb: "Organization means much. When manufacturers and dealers from the East and the West come together, returns from our investments will be made possible, and each will be able to get in touch with his neighbor. By co-operation we will have more respect for each other and bring about good fellowship in the whole trade."

C. A. Brockett, in speaking about the social side of the organization, said: "I need not say more than this association is recognized as a power in the land."

The manufacturers then retired, and Chairman Kling called the meeting to order.

Secretary Kind then called the roll and the following were found to be present:

ILLINOIS—James Van Inwagen, Jr., Tiffany Enameled Brick Co.; S. R. Fulton and J. C. Burch, United States Gypsum Co.; John Dickinson, Alpha Portland Cement Co.; C. Foster, F. S. Wright and F. D. Meacham, Meacham & Wright Co.; C. H. Woods, Wolverine Portland Cement Co., and A. Newton, Marble Head Lime Co., Chicago; A. W. Eisenmayer, Granite City Lime and Cement Co., Granite City; W. W. Nicol, Peoria Fuel Co., Peoria.

INDIANA—Mr. C. H. Steeg and E. Reiman, Reiman & Steeg Co., Terre Haute; Chas. E. Moellering, and E. H. Moellering, Wm. Moellering's Sons, Fort Wayne; Ed. Baltes and F. C. Schwier, E. M. Baltes & Co., Fort Wayne; Aug. M. Kuhn, Consolidated Coal and Lime Co., Indianapolis; Fred Goepper; Indianapolis; Charles Lawrence, Indianapolis; D. L. Mather, Mather Bros. Co., Richmond; A. B. Keeport, A. B. Keeport Co., Indianapolis; George Southall, Southall & Co., Marion; W. W. Whittaker, Indianapolis Mortar and Fuel Co., Indianapolis; Lewis Morgan, Morgan & Jackson, Indianapolis; C. Harley, Delphi; W. H. Holderfield, Muncie Coal and Lime Co., Muncie; A. B. and Geo. F. Meyer, A. B. Meyer & Co., Indianapolis; Peter Martin, Western Lime Co., Huntington; Adam Beck, Mitchel Lime Co., Huntington; Wm. Eichel, Eichel Lime and stone Co., Evansville; G. B. Hamilton, Muncie.

KENTUCKY—H. U. Frankel Louisville; J. A. Fairleigh and T. A. Courtnay, Western Cement Co., Louisville, E. H. Defebaugh, ROCK PRODUCTS, Louisville.

MARYLAND—Addison H. Clarke, Wm. Wirt Clarke & Co. Baltimore.

MICHIGAN—B. T. Becker, G. T. Burridge and J. F. Lockley, Newaygo Portland Cement Co., Newaygo; C. H. Little and A. W. Calkins, C. H. Little Co., Detroit; D. H. Cameron, Cameron & Co. Port Huron; J. R. Patterson, Peninsular Portland Cement Co., Union City; J. G. Noble, Michigan Gypsum Co., Grand Rapids; S. A. Moorman, S. A. Moorman & Co., Grand Rapids; Boutell Bros., Bay City; A. B. Knowlson, Grand Rapids.

MISSOURI—C. W. S. Cobb, Glencoe Lime and Cement Co., St Louis; Gordon Willis and F. P. Hunkins, Hunkins-Willis Lime and Cement Co., St. Louis; C. A. Brockett, C. A. Brockett Cement Co., Kansas City; J. S. Fuqua, New Union Sand Co., St. Louis; W. B. Hill, Missouri Lime and Cement Co., Kansas City; P. J. Dauernheim, Chas. W. Goetz Lime and Cement Co., St. Louis; John C. Robinson and E. E. Paramore, St. Louis Portland Cement Co., St Louis.

NEW YORK—Bertram L. Swett, Atlas Portland Cement Co., New York; Ralph Peverley, Commercial Wood and Cement Co., New York; W. S. Humbert, Buffalo; E. Thiele, New York.

OHIO—Mr. Ferris, Ferris Steam Mortar Works, Columbus; J. B. Carlile, Columbus; Jos. P. Degnan, secretary and treasurer, and Richard Kind, manager, Toledo Builders Supply Co., Toledo; John A. Kling, president, Cleveland Builders Supply Co., Cleveland; J. W. Eichelberger, J. D. Eichelberger & Sons, Dayton; W. O. Holst, Holst Builders Supply Co., Toledo; R. S. Rhoades, Columbus; C. S. Bigsby and E. C. Powers, Garry Iron and steel Co., Cleveland; George Gengnagel, Schaeffer & Gengnagel, Dayton; David Tod, Struthers Furnace Co., Struthers; E. S. Walton, Youngstown Ice Co., Youngstown; John Shaffer, Granite Clay Co., Mogadore; E. F. Gregg, Buckeye Lime Co., Genoa; H. F. Rowse, The Robinson Clay Product Co., Akron; G. B. Christian, Jr., Norris and Christian Stone and Lime Co., Marion; Chas. Schmutz, Brier Hill Iron and Coal Co., Youngstown; Elihu Harpham, Buckeye and Summit Sewer Pipe Co., Akron; R. L. Queisser, Ohio Press Brick Co., Zanesville; C. E. McCammon and W. S. McCammon, L. H. McCammon Bros., Cincinnati; L. G. Powell and L. E. Fishack, Fishack Plaster Co., Toledo; S. V. Peppel, B. Sc., Columbus; A. Hamilton, Pennsylvania Fuel Co., Columbus.

PENNSYLVANIA—D. J. Kennedy, D. J. Kennedy Co., Pittsburg; J. N. Thayer, O. C. Thayer & Son, Erie; J. O. Freeman, American Sewer Pipe Co., Pittsburg; Kent E. Lyman, Jamestown Paint and Varnish Co., Jamestown; C. L. Johnson, Castalia Portland Cement Co., Pittsburg.

WISCONSIN—W. T. Berthelt and Mr. Bartlett, Milwaukee Cement Co., Milwaukee; C. P. Flatley, Flatley Bros. & Co., Green Bay.

The minutes of the last meeting were read and approved.

The executive committee made their annual report and suggested that a change be made in the constitution and by-laws in order that the scope and the territory of the association might be extended.

The president then made his annual report, as did Secretary Kind. These reports will be printed in another issue.

The treasurer's report showed a good balance on hand.

Resolutions of a special nature were brought before the convention and referred to the executive committee to report at a later session.

After considerable discussion as to car service a resolution was passed authorizing the associa-

tion officers to confer with other associations to secure a longer time for unloading lime.

On motion, ROCK PRODUCTS was made the official organ of the association.

A discussion followed as to changing the name of the association in order to make it bore national, but it was concluded not to do so at this time, although retailers of building material in all parts of the United States are invited to join this organization.

The anouncement was made of the death of one of the pioneer members, C. A. Star, of Dayton, Ohio. A resolution was unanimously passed by standing vote extending the sympathy of the associantion to his family.

An increase in the officers was made, making two vice presidents instead of one, and the executive committtee seven members, including the president and secretary, instead of five.

Complaints brought before the association were referred to the executive committee.

The meeting adjourned.

Among the new members joining the association at this meeting were Indianapolis Mortar and Fuel Co., Indianapolis, Ind.; Fred Goepper, Indianapolis, Ind.; A. B. Keeport & Co., Indianapolis, Ind.; Granite Clay Co., Mogadore, Ohio; Schaeffer & Gengnagel, Dayton, Ohio; Wm. Wirt Clarke & Co., Baltimore, Md.; Maryland Lime and Cement Co., Baltimore, Md.; Missouri Lime and Cement Co., Kansas City, Mo.; Terre Haute Coal and Lumber Co., Terre Haute, Ind.; Meacham & Wright, Chicago, Ill.; Wagner Lake Ice Co., Sandusky, Ohio.

The next thing in order being the election of officers, the following were unaimously elected for the coming year:

Owing to the excellent work done by President John A. Kling, of Cleveland and Secretary Richard Kind, of Toledo, Ohio; Vice President C. E. McCammon, of Cincinnati, Ohio; and Treasurer J. N. Thayer, Erie, Pa., they were re-elected. A new vice president, Gordon Willis, of St. Louis, Mo., was elected.

The executive committee, after some brilliant speeches, was elected as follows:

John A. Kling, chairman, Cleveland, Ohio; C. W. S. Cobb, St. Louis, Mo.; F. S. Wright, Chicago, Ill.; C. H. Little, Detroit, Mich.; A. B. Meyer, Indianapolis, Ind.; D. J. Kennedy, Pittsburg, Pa.; Richard Kind, Toledo, Ohio.

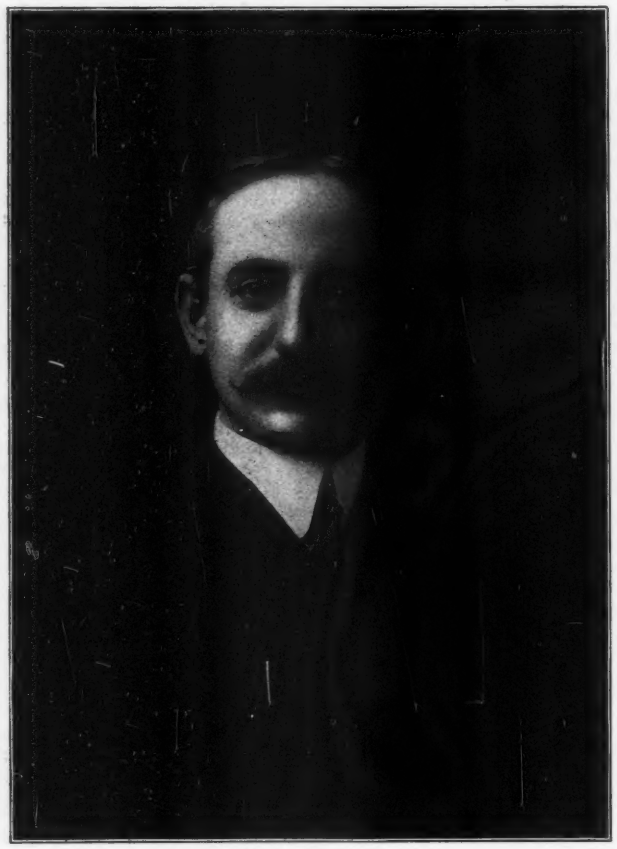
After the nominations went through with enthusiasm the committee was relieved from duty.

A vote of thanks was extended to the officers for their courteous and untiring efforts for the interests of the association. Meeting then adjourned.

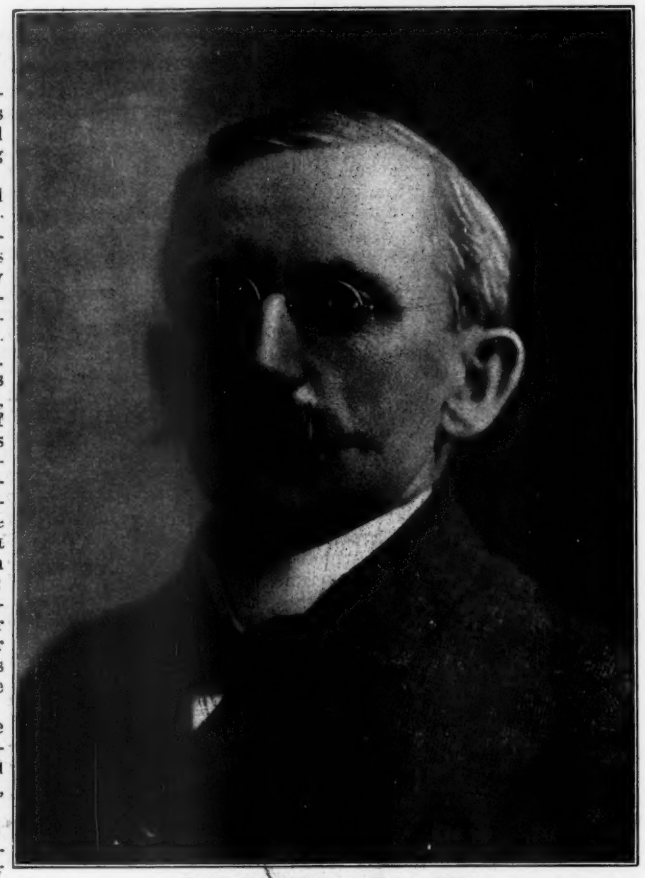
Preceding the joint meeting the picture that appears in supplement was taken.

The new Executive Committee, which held its first session January 22, outlined plans for work for the year.

The next meeting will be held at Pittsburg, probably about April 20.



J. A. KLING, CLEVELAND, OHIO.
President Interstate Builders' Supply Association.



RICHARD KIND, TOLEDO, OHIO.
Secretary Interstate Builders' Supply Association.

TUESDAY MORNING'S SESSION.

On Tuesday morning, under the head of new business, the recommendation of the executive committeee was acted on and the secretary authorized to employ a paid assistant to look after the details of the work.

A resolution was passed authorizing the manufacturers joining the association as associate members.

It was decided to hold a semi-annual meeting of the association and the executive committee was authorized to select the time and place.

A motion was made and seconded that a list of members of the association be printed and sent to members.

Addison H. Clarke, of Baltimore, was then introduced to the members. He extended the greeting of the Baltimore Lime and Clay Exchange to this association. He made a good talk on some special recommenuations for the work of the association.

THE JOINT SESSION.

On the afternoon of Tuesday a joint meeting was held of the dealers and manufacturers of building material.

Chairman Kling called the meeting to order. Ex-president C. H. Little presided. He spoke of his pleasure in seeing so many present, and as per program, called on J. O. Freeman, of the American Sewer Pipe Co., Pittsburg, Pa.

Jesse, being bashful, was hard to get on his feet, but he expressed himself in a few words, that his company were glad to cooperate with the Inter-State Builders' Supply Association, but left all the secrets about the subject of fire clay in his pigeon hole at Pittsburg. He said: "Your interests are our interests. If we neglect your interests we neglect our own. I have enjoyed this meeting and am glad to be with you."

Then it was that we were pleased and interested with a paper on Wall Plaster by J. C. Burch, Chicago, Ill.

In opening his address he said: "I am not unmindful of the courtesy extended me by your illustrious secretary to read a paper here and accepted the invitation in the same spirit. While I was expected to make an informal talk, I realized that if I was here to say something for your interest I had better put it on paper, and that is my excuse. I had no idea of the scope and permanency of your organization, and I am glad I came."

He then told an Indian Territory yarn illustrating the fact that the Indian said he couldn't write readin' and how could you expect him to read readin', saying "that is my position in doing this reading for you to-day."

ASSOCIATION AND THE PLASTER INDUSTRY.

(By J. C. Burch.)

I am not unmindful of the unusual courtesy extended to my associates by your very cordial invitation to meet with you at this time, and I wish to assure you that we accept the invitation in the same spirit with which it has been given. It is always a source of pleasure, and profit as well, for business men to meet and exchange ideas with one another. Indeed I believe one of the most hopeful signs of the times is the increasing frequency of such gatherings. I am a thorough believer in organization as the best, in fact, the natural means, by which substantial commercial advancement may be secured. The general tendency of the present time to aggregate experience and capital in large undertakings is but the natural evolution of an industrial germ. As from the first organization of families followed the gathering of people in tribes, gradually expanding into a strong central government, so in business from the partnership has grown the corporation, and ultimately the combination; the resultant in both cases of natural forces as positive as the force which keeps the planets in motion and as unchangeable as the fixed stars.

It is only in recent years that what we commonly term *business* has enlisted the best thought of the individual. Formerly only literature, science and government in its various branches were considered honorable fields for master minds; but to-day there is more brain force in commerce than in all the others combined. Now, intelligence instead of muscle commands a premium. When employing a man, instead of asking, "How much can you lift"? we ask, "How much do you know"? The more methodical and progressive the employer, the more exacting is he as to the qualifications of the employee. The successful business man of this strenuous age must not only be able to originate better methods, but he must readily absorb and assimulate the progressive ideas of his associates and competitors. The man who, by diligent application to his specialty, has pressed his way to the very forefront in the commercial struggle, may look backward and see the smokeless chimneys, silent spindles and crumbling warehouses of those competitors who thought the old way good enough. The up-to-date business man will eagerly seize every opportunity to confer with others in the same line of business, and be among the first to adopt improved methods. This is especially true in manufacturing. As an illustration, we will observe that the average price received by manufacturers of plaster now is 25 per cent. less than the average cost of manufacture 15 years ago; and there are those who insist that some of the plaster men are not in the business now entirely for their health. I have not the figures at hand, but am quite certain that the same thing is true of hydraulic cements, and doubtless of nearly all other building materials. While the cost of manufacturing has been largely reduced, it has not been done at the expense of quality, for a much better article is now being supplied by the manufacturers of all building materials than ever before. These changes have not been brought about by chance, but are the result of the increased thought which manufacturers have been giving to their business, and these

SUPPLEMENT

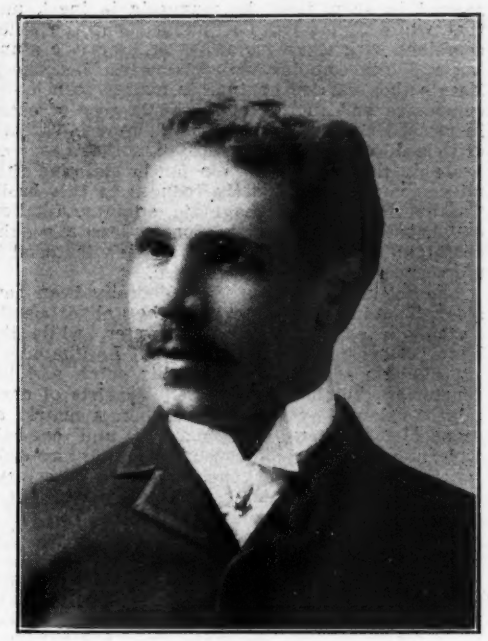
ROCK PRODUCTS

Vol. I; No. 11.

LOUISVILLE, KY., FEB'Y, 1903.

MEETING OF THE INTERSTATE BUILDERS SUPPLY ASSOCIATION, INDIANAPOLIS, IND., JANUARY 20 AND 21, 1903.

1—Mr. Ferris; 2—J. B. Carlile; 3—J. P. Degnan; 4—B. T. Becker; 5—C. H. Little; 6—J. A. Kling; 7—D. J. Kennedy; 8—J. N. Thayer; 9—G. T. Burridge; 10—Mr. Steeg; 11—C. E. Moellering; 12—A. Hamilton; 13—E. Baltes; 14—J. F. Lockley; 15—C. W. S. Cobb; 16—R. Kind; 17—J. W. Eichelberger; 18—D. H. Cameron; 19—A. E. Bradshaw; 20—W. O. Holst; 21—F. C. Schwier; 22—A. M. Kuhn; 23—R. S. Rhoads; 24—G. Willis; 25—— —— ——; 26—J. O. Freeman; 27—J. Van Inwagen, Jr.; 28—F. Goepper; 29—B. L. Sweet; 30—E. H. Moellering; 31—K. E. Lyman; 32—— —— ——; 33—W. S. McCammon; 34—C. S. Bigsby; 35—C. L. Johnson; 36—G. B. Hamilton; 37—R. Peverley; 38—G. Gergnagel; 39—A. W. Calkins; 40—D. Tod; 41—J. R. Patterson; 42—J. G. Noble; 43—S. A. Moorman; 44—C. Laurence; 45—— —— ——; 46—E. S. Walton; 47—W. T. Berthelet; 48—S. R. Fulton; 49—J. Dickinson; 50—D. L. Mather; 51—C. Foster; 52—C. P. Flatley; 53—A. H. Clarke; 54—J. Shaffer; 55—C. H. Woods; 56—A. B. Keeport; 57—E. H. Defebaugh; 58—W. S. Humbert; 59—C. A. Brockett; 60—J. S. Fuqua; 61—G. Southall; 62—W. B. Hill; 63—P. J. Duernheim; 64—H. U. Frankel; 65—F. P. Hunkins; 66—J. C. Robinson; 67—— —— ——; 68—E. F. Gregg; 69—E. C. Powers; 70—W. W. Nicol; 71—H. F. Rowse; 72—G. B. Christian, Jr.; 73—C. Schmutz; 74—— —— ——; 75—J. A. Fairleigh.



J. N. THAYER, ERIE, PA.

Treasurer Interstate Builders' Supply Association.

meetings stimulate us to greater activity along progressive lines. No one wishes to see his competitor pass him in the race for an improved quality or a lessened expense. I do not think that the acquiring of wealth *per se* is the magnet which draws men into the commercial whirlpool and urges them to their best, but rather the innate desire to succeed, together with the element of chance—the gamble of business. Sir Walter Scott recognizes the power of this influence when Rob Roy tells how completely his father was wrapped up in his mercantile life. He says:

"He would have been a poorer man indeed, but perhaps as happy, had he devoted to the extension of science those active energies and acute powers of observation for which commercial pursuits found occupation. Yet, in the fluctuations of mercantile speculation, there is something captivating to the adventurer, even independent of the hope of gain. He who embarks in that fickle sea, requires to possess the skill of the pilot and the fortitude of the navigator, and after all may be wrecked and lost unless the gales of fortune breathe in his favor. This mixture of necessary attention and inevitable hazard—the frequent and awful uncertainty whether prudence shall overcome fortune or fortune baffle the schemes of prudence—affords full occupation for the powers as well as for the feelings of the mind, and trade has all the fascination of gambling without its moral guilt."

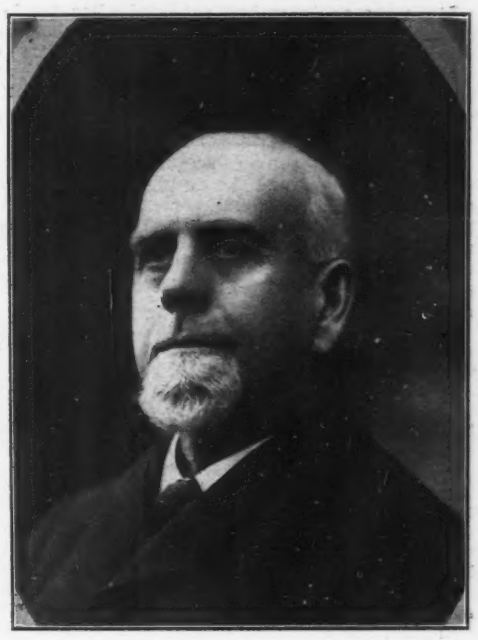
This inborn desire and element of chance brings us together for an interchange of ideas. The plaster manufacturers have had considerable experience along this line, as we have been having frequent conferences for years, and though in some cases the results were not immediately apparent, yet as we look back now we can see that every meeting was a progressive step toward a more perfect organization.

As a direct result of this getting together, the plaster interests are in a more satisfactory condition now than ever before. I do not mean this in a narrow one-sided or selfish sense, but in that broad and comprehensive view which embraces the interests of both producer and consumer. We have no inclination toward monopoly, and even if we had, Nature has made this impossible by a general diffusion of the deposits of raw material. We believe that in our line the interests of the manufacturer and consumer are common. The manufacturer who retains for himself the whole reduction in cost of manufacture and distribution is taking that near-sighted view which looks only to the present. Lower prices make an increased demand, and a large output minimizes the cost of manufacture. Uniformity, reasonable and steady prices are our aim. The phenomenal increase in the demand for many of the materials used in the building trades can be traced directly to a reduction in price. The total amount of gypsum products of all kinds manufactured in the United States in 1887 was less than 100,000 tons, which had increased in 1901 to nearly 700,000 tons. This increase comes largely from its use in new channels, which would have been impossible without a substantial reduction in cost. More than one-half of our sales of plaster in 1902 could not have been made at the prevailing cost of manufacture in 1887. We are selling plaster so low now that it is being used in the construction of nearly everything from a temple to a child's play-house, and from a granite monument to a nigger baby. It has become a competitor of lime, fire-proofing, marble and whiting, and we are reliably informed is now used to improve food products—this, I presume is to make them stick to the ribs. For the benefit of our cement friends, I will add that recently a process has been discovered by which hydraulic plaster can be made, thus furnishing another strong bond of sympathy and another reason why we should stick together.

The dealer, or middleman, does not want fluctuating prices, for his is not a hand-to-mouth business. He frequently makes his sales 6, 9 or 12 months in advance of delivery. With the large number of independent concerns and new plants being built every year, prices were irregular and fluctuating. One man would no sooner learn by experience that it cost money to do business than some other fellow with wheels in his head, or pocket, or both, would "bob up serenely" and construct a plant with "new and improved machinery" (more wheels) and disorganize the trade. He invariably forgot that a theory should only be accepted when demonstrated to be a fact, and while he was convincing himself that he was only dreaming, the rest of us were paying for his experience. Disregarding the best business methods established by long years of experience, he sold to anyone who would buy, ignoring entirely the rights of the dealer. With the assistance of the dealers, we expect to entirely eliminate this element which will not profit by the experience of others, and fully protect the dealers by making no sales except through them.

In addition to this, too many plants were constructed, causing an over-production, which always results in an increased cost to the consumer or a loss to the manufacturer. We believe it is better to have these plants idle than to tax the business with the unnecessary expense of operating them.

The immediate outlook for the plaster trade is most encouraging, and we have every reason to expect a satisfactory year's business. The increased cost of labor, which is a large item with us, must necessarily force prices to a higher level than they were a few years back, when labor was much cheaper. I do not object to higher wages but I feel that the employer's menace is the uncertainty and instability of the employe. Were it not for the agitator and politician, I believe the employer and employe would soon meet on a common ground through the medium of intelligent organization on both sides, when they would recognize their interdependence, and that their interests are mutual. I know it is customary with



C. H. LITTLE, DETROIT, MICH.

Ex-President and Member Executive Committee Interstate Builders' Supply Association.

a certain class of yellow journals and their followers, to cite the increased number of strikes as an evidence of an ever widening breach between capital and labor. They *seem* to forget (I use the word *seem* advisedly), that the large scale on which commercial enterprises are conducted now, forcing so many laborers together, is conducive to concerted action among them. This holds true in other things. Take a hundred men scattered over a State, on the farms and in the towns, and put them together in a college, and from the quiet country lads you will immediately transform them into the crowd—full of pranks and mischief. Strikes will always be less frequent when and where labor is least employed.

Whenever the conservative, thinking, fair-minded men shall be in full control on both sides, all labor troubles will cease, and I think we are rapidly moving in that direction. The laborer and employer will get close together, fully respect each others' rights, and be earnestly interested in each other's welfare. Then steady employment, fair wages and a regular output, will be secured, and peace and harmony prevail.

As manufacturers, we should put forth our best efforts in this direction—we owe this much to the employe, the public and ourselves.

A. B. MEYER, INDIANAPOLIS, IND.

Member Executive Committee Interstate Builders' Supply Association and Toastmaster at Banquet.

FRANK S. WRIGHT, CHICAGO, ILL.

Member Executive Committee Interstate Builders' Supply Association.

When the applause had subsided after the last yarn, which is not printed herewith, the Chairman introduced Mr. John C. Robinson, secretary of the St. Louis Portland Cement Co., who also was bashful, but who told his experience in an interesting paper, which is printed herewith.

THE PAST, PRESENT AND FUTURE OF CEMENT.

(BY JOHN C. ROBINSON.)

A man who has had the designing and building of a good-sized Portland cement plant on his hands during the past year of congested labor and material conditions, has really had enough to keep him out of mischief without attempting to prepare any very learned articles on scientific subjects.

However, when my good friend, your secretary, so kindly invited me to give you a little talk at this meeting, I did not like to decline.

There has often been so much needless friction between manufacturers and dealers that anything tending to bring them into closer relations cannot be too highly commended, and a single meeting of this character does more toward that end than years of formal correspondence or strictly business acquaintance.

In fact, to one who is just nursing a new mill through its various childhood diseases, a trip like this is a rest and treat.

Even by us whose lives are devoted to the manufacture and distribution of materials of construction, the enormous development of the Portland cement industry is hardly appreciated.

The Portland cement *production* of the United States during the calendar year of 1902 amounted to more than the entire *consumption* of Portland cement in this country, imported and domestic, from the time of its discovery up to and including the year 1890.

Calcareous cements may be divided into two general classes: the selenetic cements or plasters, used almost exclusively for interior work, and the hydraulic limes and cements proper.

I will devote myself exclusively to the latter. Hydraulic cements proper may be divided into four general classes:

First—The puzzuolan cements, consisting of a fat lime, mixed with volcanic or slag material.

Second—The hydraulic limes, carrying from ten to twenty per cent. of clayey matter.

Third—The natural cements, ordinarily carrying a considerable portion of magnesia, and at least 30 to 40 per cent. of clayey matter.

Fourth—Portland cement.

The first of these, Puzzuolan cements, are perhaps the oldest in point of use and are represented by the old Roman cements. Many works constructed with them are still standing after a lapse of 2,000 years. They consist in a simple mixture of slaked lime, with trass, puzzuolana or blast-furnace slag.

In a slag or puzzuolan cement, there is no chemical combination of the lime and puzzuolan material before water is added. Up to that time the mixture is purely a mechanical one, in distinction from Portland cement, where a definite chemical combination takes place at the time of burning.

The puzzuolan materials themselves all carry more or less lime in combination, however, and when in a very finely divided state combine with the hydrated lime, thus accomplishing the setting and the hardening of the cement. For this reason, extreme fine grinding is necessary, as otherwise the cement is not only unsafe but largely loses its cementitous properties.

The general process of manufacture consists in granulating the hot slag as it comes from the furnace, drying, adding the slaked and dried lime and grinding; the proportions of the materials depending upon the composition of the slag used. They are to-day represented by the slag cements, those best known in this district being the product of the Illinois Steel Co., and the Briar Hill plant near Youngstown, Ohio. They are produced to a certain extent in Europe, but of late years, owing to the reduced price and increased output of Portland cements have been largely displaced and their output is materially less than formerly.

The second or hydraulic limes are practically unknown in the United States, but are used to a considerable extent on the continent of Europe. The manufacture is carried on in France as follows:

The limestone carrying a certain amount of clayey matter (usually very low in alumina and iron) is burned as in the manufacture of common lime. After burning, it is slaked either with water or steam, the unslaked lumps, consisting of over or underburned material, sifted out and the screened product marketed as the commercial hydraulic lime.

Frequently the overburned material, which closely approaches Portland cement in composition, is ground and added to the hydraulic lime, in this way adding materially to its strength. They set slowly under water but eventually obtain considerable hardness. They are also being rapidly displaced by Portland cement.

The third, natural cements, have been and are still being very largely used in the United States. They are made from impure limestone, carrying a large per centage of clayey matter; are burn d at a low temperature in stack or pot kilns, without preliminary preparation, and are, of course, entirely dependent upon the character of the rock from which they are made.

The principal points where they are produced in this country are the Rosendale district in Eastern New York, the Louisville district in Kentucky and Southern Indiana, and the Lehigh Valley district of Eastern Pennsylvania. There are besides these a number of scattered mills, as at Cumberland, Md., Akron, N. Y., Utica, Ill., and Milwaukee, Wis.

They nearly all carry a considerable amount of magnesia and such an excess of clay that if burned at a high temperature they would slag to an inert mass. They ordinarily set quickly, but have small sand carrying capacity, and only attain any considerable strength after quite a length of time.

Many important engineering works have been constructed with them, but they are necessarily irregular, and no good engineer would to-day dare use them on important work. Up to twenty years ago they were practically the only cements used in engineering work in this country. Up to 1890 their output increased rapidly; since then it has been slow, but reaches about ten million barrels annually at the present time. It is probable, however, that this has now reached its maximum and that the output will gradually decrease, as it has already done in Europe.

Having briefly reviewed these various kinds of cement, I will devote the balance of my time to Portland cement.

Portland cement is a powder formed by finely grinding the clinker produced by burning to incipient vitrification an intimate mixture in exact proportions of lime and clay. The raw materials vary quite largely in character, as we can use either marl, chalk or hard limestone for the lime constituent; or a plastic clay, moderately hard, or rocky shale, for the clay; in fact, the largest Portland cement works in this country are using impure limestone carrying approximately the correct amount of clay and correcting it by the addition of shale or purer limestone (more usually the latter), as the case may require. The composition for any particular mixture of stone and shale must be kept within very narrow limits; an error of one-half of one per cent. in the materials being appreciable in the character of the cement. A difference in the composition of the clay, however, brings about a considerable difference in the proportion of lime, and as a result, we see first-class Portlands varying in lime content from 59 to 67 per cent., in silica from 18 to 24 per cent., in alumina from 5 to 10 per cent., and in iron from 2 to 5 per cent. Anything outside of these proportions is abnormal and should be looked upon with suspicion. Besides the lime, silica, alumina and iron, certain other substances are almost always present in greater or less amounts and materially effect the character of the cement.

The two to be most carefully guarded against are magnesia and sulphur. The former should not exceed 3 or 4 per cent., and, generally speaking, the lower the sulphur the better. This applies particularly when present in the form of a sulphide, where a very small amount may do most serious damage. In the form of a sulphate it is used by practically all cement manufacturers, as it materially improves setting time, early strength and ability to pass accelerated tests. It should, however, be used with caution as an excess is liable to do serious mischief.

The exact chemical composition of Portland cement has been a matter of considerable discussion and controversy. The first exhaustive study of this subject was probably by Le Chatelier. He reached a conclusion that tri-calcic silicate and tri-calcic aluminate were formed. He believed further that the magnesia acted in the same manner as the lime, and deduced the general formula that there must be at least sufficient clay added to completely satisfy the lime in this respect, while there must not be more than enough to satisfy the lime and magnesia combined. It is on this assumption that the general hydraulic index in referring to Portland cements is based. Later investigations of the subject, in which the work of the Newberry's in this country is best known, seemed to show that the magnesia is inert, and that while in normal Portland cement the silica combines with three molecules of lime, the alumina and iron combine with two only. The experiments they carried on in this matter seem quite conclusive and their results are largely accepted in cement practice to-day, though they have been criticized severely by some high authorities, and probably they have gone too far in claiming that all cements can be strictly reduced to this basis. The question of iron, magnesia, sulphur, alkalies, etc., existing in every clay, more or less, affect the combination, and as a result every new material is more or less a problem of its own.

The setting of cement has generally been considered as due to the fact that the anhydrous silicates are slightly soluble in water, while the hydrated ones become insoluble, but Le Chatelier's experiments again bear upon this point, and his conclusion that hardened cement consists of crystals of calcium hydrate imbedded in a matrix of monocalcic silicate, carrying two and one-half molecules of water, of crystalization, is probably the correct one. The general subject of cement chemistry is an extremely interesting one, but I do not wish to weary you with it.

The first systematic study of cements and hydraulic limes was made by Smeaton, the engineer who constructed the Eddystone lighthouse in the middle of the Eighteenth century. Previous to that time it has been generally considered that the strength of lime depended upon the hardness of the rock from which it was produced. He showed the fallacy of this, and was the first to call attention to the fact that the ability of any lime to harden under water depended upon its carrying a certain amount of clayey matter. The results he reached, however, were not at all conclusive and it was left to Vicat, a French scientist, to first put these results in accurate form. He really foresaw the invention of Portland cement without actually making it. It remained to James Aspdin, a bricklayer of Leeds, England, to actually produce Portland cement. This he did in 1827—75 years ago. The first cement was produced from limestone dust scraped from the roads, mixed with clay and burned in intermittent kilns.

The general theory of the manufacture of Portland cement is extremely simple. We have merely to burn at a temperature of approximately 3,000° Fahrenheit, a suitable mixture of lime, silica, alumina and iron and grind the resulting clinker to a powder. If the proper mixture was found in nature, no preparatory grinding would be necessary, and a large portion of the cost of manufacture thereby eliminated. Pockets of such composition are occasionally found, but as you will recollect, a difference of one-half of one per cent. will injuriously affect the character of the resulting cement. All high-grade Portland cements are artificially compounded and corrected.

The manufacture naturally divides itself into three distinct branches: Preparation of raw material, burning and grinding clincker.

Each of these must be adapted to meet the special conditions existing in and about every plant. This refers not alone to the physical and chemical properties of the raw materials themselves, but proximity to markets, cost of fuel, labor and climate itself.

The gradual growth of the business is an interesting study in industrial development. The earliest plants of a commercial importance were located on the Thames, below London, and used for their raw materials chalk, and mud dredged from the river bottom. The process was crude, but the materials are excellent, and with proper equipment and care, the highest grade of cement can be produced from them. The earliest methods, still employed to a considerable extent, were as follows:

The chalk and mud were dumped in wet pans, in some cases provided with mullers, in others with harrows only; water was added until a thin mud, carrying not to exceed twenty per cent. of the solids, was formed. This was run off into ponds or backs, where it was allowed to settle; the supernatant water drawn off, and the balance allowed to evaporate until the "slurry" became stiff enough to handle. In the damp climate of England, this sometimes required months. The semi-dried slurry was then transferred to drying floors, where it remained until practically all the moisture was eliminated. If this was not done, the steam generated would break down the lumps to a powder, choking the kilns. It was then placed in intermittent kilns with alternate layers of coke, ignited, and the kiln allowed to burn out. This process occupied about a week. The kiln was then drawn, the clinker sorted, the underburned being rejected for reburn-

Continued on page 29.

Letters From the Trade

Crushed Stone and Rubble.

The Hillis Stone Co., Greencastle, Ind.—We got out about 7,000 yards of crushed stone the last year, and close to 150 yards of rubble.

Will Add a Crusher.

G. H. Davis, Blue Spring, Neb. (formerly of Holmesville, Neb.)—Replying to your inquiry, would say that for a year past our business has been consolidated with that of Black & Mayne. of this place, under the firm name of Davis & Mayne, Mr. Black retiring. In the way of improvements, we expect to add a crusher to our plant this year.

About the Usual Run.

French Bros., Rocky Point, N. C.—Replying to your inquiry about the past year's business, would say that our output has been about the same as 1901, and at present we see nothing in sight to indicate any change of the business for the coming year.

Did Not Quarry so Much.

P. Snyder, Grand Rapids, Ohio.—There was only about half the amount quarried here the past season that there was in 1901. We are operating only for bridge and building purposes and do not contemplate any improvements.

A Confusion of Firm Names.

McKenzie Bros., Delphos, Ohio.—We do not operate quarries. Our firm deals in monuments, and the other firm of McKenzie Bros. are manufacturers of brick.

Will Double His Output.

Arthur Maxwell, Ludlow, Ohio.—I produced and sold one-half more rough stone in 1902 than during the previous year, and at prices that were about ten per cent. better. I expect to enlarge my force so as to double my output the coming season.

Will Increase Their Lime Output.

A. M. Kimsey & Sons, Tullahoma, Tenn.—Our lime business has been increasing right along and we hope to increase it more next season. Our aim is to supply the local demand for which we manufacture 1,000 barrels a month. We wish you and the industry in general good success.

Had a Good Year.

J. E. Williams & Co., Paducah, Ky.—We did in 1902 nearly double the amount of work done in 1901, and the prospects ahead for the present year are good. There are no new quarries going into operation here that we know of.

Business is Quiet.

P. A. Miles, Farley, Iowa.—Our output for the past year was practically the same as that of the previous year, and business is quiet just now except some building. There are no new quarries in this neighborhood and we do not contemplate making any improvements or enlarging our operations.

The Best in Years.

The Barnes Marble Works, Henderson, N. C.—Last year trade was the best we have had in years. We are quarrying an excellent grade of granite that we are using for building stone, curbing, monumental bases, etc.

A Good Year in Marble Monuments.

George E. Coulter, Newton, N. C.—My business is in the retail marble monument line, and the past year was better than 1901.

Will Have Improved Facilities.

C. W. Babcock & Co., Kasota, Minn.—Our business was greater in 1902 than it was the year before. We shipped over 3,000 carloads of stone in 1902.—We will put in a new stone crusher this year and also a new shed, with hand traveler for stone cutters. The C. M. & St. P. Railroad is putting in a track in our quarries, having recently gotten a line into this territory. We employ from 125 to 150 men.

Was Hampered by Bad Weather.

J. B. Schuerman, Fort Jennings, Ohio.—The stuff gotten out the past year does not near amount to what it did a year ago on account of bad weather. I am thinking of getting a larger crusher for this year. One new quarry was started in this locality last summer. Becker and Martin are the operators.

The Best Year Yet.

Hales Bros., St. Cloud, Minn.—We consider that 1902 was the best year we have had since going into business. We are doing nothing but monumental work, strictly wholesale. We intend to install a complete plant at the quarry this season, also a 75-ton derrick of the latest and most improved type.

Are Improving Their Crushing Plant.

E. Blanderkorf & Co., Eldorado, Kan.—Replying to your inquiry of recent date, will say that our output for 1902 was considerably greater than the previous year. We are building storage bins for our crushing plant that will hold fifteen cars of crushed stone. There are no new quarries opened up in this neighborhood.

Will Put in Derricks and Hoisting Machinery.

C. A. Gorman, Medina, N. Y.—We produced about $30,000.00 more stone last year than the previous year. We expect to put in large derricks and hoisting machinery. We quarry building and street material. There are no new quarries here.

Contemplates Putting in a Crusher.

V. A. Biggs, Iowa Falls, Iowa.—The stone business here for the past year has been very good, somewhat better than for the year 1901. I am contemplating putting in a crusher this year, as the demand for crushed stone is growing each year in this locality.

Are Installing Pneumatic Drills.

Simmers & Campbell, St. Cloud, Minn.—We have increased our output 14 per cent. over 1901 this past year, and are at present installing a pneumatic drilling outfit in our quarry. Our specialty is monumental work.

A Prosperous Kansas Town.

C. A .Wright, Atchison, Kan.—We are pleased to say that the building interests were very active during the past year, considering the high—almost prohibitive—price of lumber at this point. Atchison is a live up-to-date Western town of 16,000 people, with over twelve miles of paved vitrified brick streets, with miles more under construction, and a large and complete sewer system is being put in throughout the southern half of the city. With all this public work and also the private work going on, it is difficult to get men and teams and machines to do the work. We look for a big trade during the coming season in all kinds of building materials.

Enjoyed a Splendid Trade.

The Modern Marble & Granite Co., Mt. Sterling, Ill.—Replying to your inquiry will say that we are engaged in the monumental business here. We do a retail business and use many kinds of marble and granite, also other stone and cement. We handle all the leading granites and have enjoyed a splendid trade the past year.

Make Wood-Burned Lime.

Charles Williams & Co., Bigelow, N. Y.—Our trade has been about the same in 1902 as it was the year before, and we are not looking for any increase for the present year. We make wood-burned lime and find it very difficult at present to get choppers to cut wood, and for this reason we may not be able to get all our usual supply.

Will Make Changes in Quarry.

F. T. Cornby, Edge Hill, Pa.—I have sold more stone the past year than in 1901. There are no new quarries in this part of the country that I know of, but I will make some changes in my quarry this spring.

Are Shutting Down.

F. C. Hoffman, Elk City, Oregon.—We are about to discontinue quarrying for lack of business. All the other quarries here are shut down at present.

Just Finished a Big Brick Contract.

A. A. Davis, Room 205 Superior Block, Cleveland, Ohio.—We are interested in the manufacture of brick. That is, I represent the Cleveland Brick Co., as the city agent, the works being situated at Canton, Ohio. The works have a capacity of 50,000 a day and have not stopped work for six years. We have just finished one of the largest contracts in this city, where we used 19,000,000 bricks in the water works tunnel, which extends five miles out in lake Ontario.

A Suggestion for Turning Long Columns.

The Kankakee Stone and Lime Co., Kankakee, Ill.—Replying to your editorial in which you say, "One of the questions that has bothered part of the stone trade the past month or two is how to turn a granite column that is so long that it will break from its own weight when swung up by each end in a lathe." Why do not the bothered stone trade stand the column on end and make the tool travel up and down?

Steadily Increasing.

W. H. Haynes & Co., Mt. Airy, N. C., January 14.—The shipments of granite from the Mt. Airy Granite Quarry for the year 1902 aggregate eleven hundred car loads, consisting principally of random and dimension stock, building work, large mill blocks, street curbing and crossings. Our business is steadily increasing and a working force of about three hundred men find regular employment in getting out the material.

Have Advanced Prices.

The M. J. Grove Lime Co., Stephens City, Va.—Our trade was better last year than ever and we look for about the same this year. We are not doing anything toward an increased output, owing to the increased cost of fuel and its scarcity. We have advanced our prices for this year.

Will Add Pneumatic Tools.

S. L. Van Fossen, Beardstown, Ill.—Our trade doubled during the past year over the business of 1901 and the prospects are good for an increase this year. In the way of additions, I intend to place pneumatic tools in as soon as I get a shop built for the purpose.

Objects to Stonecutters Ruling.

CHICAGO, ILL., January 20.—While you are striving to do things for the trade, how about what others are doing to the stone trade? I am told that the union stone cutters have passed a ruling by which stone that is cut in one city cannot be shipped to another city without the consent of the stone cutters in the city shipped to, even though the stone is cut by union labor, and it just strikes me that it is time to take a stand against such high-handed business. It would take me a week to tell you all the confusion and trouble this ruling may cause, for as it is explained, a Chicago citizen may own a stone mill at Bedford, which several do, and yet they must not cut stone there and ship it to Chicago without permission from the Chicago union stone cutters. Isn't that enough to make the Goddess of liberty throw away her torch? If this kind of business is to continue, the owners of stone quarries and mills may eventually come to the point where they will turn over their business to their workmen and simply draw a salary for managing it—and let the workmen set the salary. I have no fight to make on the working man, and am not a believer in tyranny, not even when practiced by working men, but the heads of industries have their rights, too, and there is no reason in having them trampled on simply because it's working men that want to do the tramping. Maybe I am a crank, however, and am off on the wrong track. If I am I wish some of you would set me right. Get some other stone men to express themselves on this subject and let us see what the trade as a whole thinks of it.

FAIRPLAY.

Will Likely Spread Out a Little.

The Quincy Granite Co., Quincy, Mass.—Our sales for 1902 were almost double those of 1901. It is probable that the coming year we will reopen two more old quarries and develop one or two new ones. We furnish everything in the stone line from polished building and monumental to crushed stone and stone dust.

Makes Ornamental Blocks.

J. T. Wyatt, Salisbury, N. C.—Business was better with me last year than ever before. I realized $4,360.00 more out of my granite business last year than I did the previous year. My specialty is engine beds, street curbing for cities and granite door and window sills for factories in the South and North. I make ornamental blocks 18 in. by 18 in. by 3 ft., dress sides and rock face. The ladies buy them. They are placed in the front yards as ornaments and are beautifully made from granite. Your paper is highly appreciated here in the granite camp.

Make a Specialty of Curbing.

A. B. Ashman & Co., Osgood, Ind..—Replying to your inquiry, will say that the amount of stone gotten out the past year was a little greater than we got out the year previous. We do not contemplate making any great changes or improvements in our quarrying plant this year. Our principal work in the way of dressed stone is curbing. There are no new quarries in our neighborhood.

Gets Out Flagging and Curbing.

A. J. Simpson, Phenecia, N. Y.—I did but a very small business in quarrying last year. Will do more this year at prices that are a little better. I get out flagging and sidewalk curbing, sills, and platforms 4 inches to 14 inches thick.

Mostly Paving and Curbing.

E. G. Kittridge, Milford, N. H.—Compared with last year the amount of granite produced increased about 10 per cent. We contemplate no special improvements. Our business is mostly paving and curbing.

Cement Trade Was Active.

Hamilton Bros., Cedar Rapids, Iowa.—The trade on cement last year was very active, particularly on the Portland cements. Portions of the season it was impossible to get the necessary supply of this cement promptly and prices materially advanced from those named at the opening of the season. Native cements were in demand and shipments during the season were fairly prompt.

SAND.

The Pennsylvania Glass Sand Co., Lewiston, Pa., is making some improvements.

The Acme White Sand Co., has been incorporated at Pittsburg, Pa., with a capital stock of $1,000.00.

The Portland Sand & Gravel Co., has been incorporated at Portland, Me., with a capital stock of $10,000.00, to deal in gravel and sand. The officers of the company are: C. A. Vincent, president; G. W. Brown, of Cape Elizabeth, treasurer.

The Jefferson City Sand Co. has organized at Jefferson City, Mo., with a capital stock of $5,000.00. The officers are: Joseph A. Deering, president; Mr. Chris Miller, vice president; F. R. Kay, secretary; Lon V. Stephens, treasurer.

The Pioneer Navigation and Sand Co., Ltd., has been incorporated at Winnepeg, Manitoba, Canada, with a capital stock of $7,500.00. The incorporators are: J. W. Hall, Robert Hall, William H. Hall, McPhee Howatt, J. Hillyard Loech and A. T. Davidson.

About Pumping Sand.

Peoria, Ill.—I notice in a recent issue of ROCK PRODUCTS you seem to be seeking information about pumping sand and gravel. I have had some experience in this work and I find there is not so much difficulty in getting the pump to do the work successfully as there is in the man who operates it I have done this work successfully with several different kinds of pumps and will be glad to help any one out who is having trouble in this kind of work. J. B.

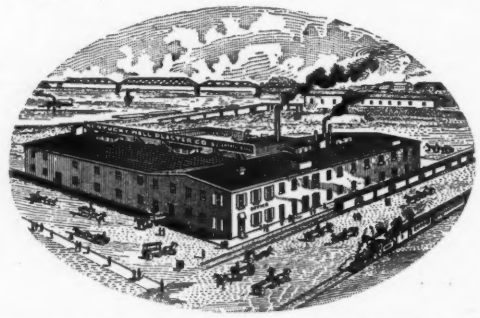
Plaster.

Falls Cities Plaster Industries.

The cement industry of the Louisville district is known all over the country, but cement is not the only product in the mortar line of this locality. We have lime plants, and there are also two plaster plants manufacturing in the Falls Cities. On the Kentucky side we have the Kentucky Wall Plaster Co., in Louisville, and on the Indiana side we have the American Wall Plaster Co., in Jeffersonville, Ind.

The Kentucky Wall Plaster Co. has a plant on the river front between First and Brook streets, with a capacity of 1,500 sacks of 125 pounds each a day. The proprietors of the Kentucky Wall Plaster Co. are: B. J. Campbell, J. B. Campbell and B. J. Campbell, Jr., all of whom are practical plasterers and conduct a contract plaster business in addition to operating a plaster plant. J. B. Campbell looks after the plant, and the plaster business is looked after by B. J. Campbell and B. J. Campbell, Jr.

The practical knowledge of plastering has been of material assistance to them in operating a plaster plant, and has enabled them to devise and mix plasters for the various requirements in the building trade and look after the details in a thorough manner. Some idea of what this practical knowledge of the business has been worth to them may be had by a study of the growth of their business. They started in about eight years ago with a little plant 40x50, and have gradually enlarged it from year to year, until to-day they have a plant occupying 120x130 feet of ground and expect to continue growing. They have recently added a new sand dryer and are equipped for handling sand in a strictly up-to-date manner as fast as three men can scoop it into an elevator.



PLANT OF THE KENTUCKY WALL PLASTER CO.

Their special brands are the Diamond Wall Plaster, Campbell's Cement Plaster, the Louisville Wood Fiber Plaster, Campbell's Wainscoting finish in any color, and powdered lime. They also deal in plaster supplies, etc. In addition to supplying the local trade, they cover the Southern territory as far South as Mississippi, selling to dealers in building material.

The American Wall Plaster Co., of Jeffersonville, Ind., sells to the local trade and throughout the territory in Southern Indiana and Illinois. This company, of which Mr. Perry is manager, contemplates spreading out and adding to the equipment of their plant in the near future.

Oklahoma Gypsum.

It is not generally known that the gypsum deposits of Oklahoma are among the most extensive in the United States. Prof. Charles N. Gould, geologist at the University of Oklahoma, at Norman, has recently submitted to the Government a report on this product in which the total amount of material in the territory is estimated at more than one hundred billion tons. Ledges more than 100 feet thick are reported, and some single ledges extend for more than 200 miles across the country. Practically all this gypsum is available for the manufacture of cement and plaster. At present, however, there are but four mills in operation in the territory. Two of these use gypsite or dirt gypsum, and the other two use the massive gypsum rock.

Anhydrite, which is nothing put gypsum without the water of crystalization, has been found in considerble quantities in Oklahoma. In one place there is a ledge averaging 8 feet thick that outcrops along the top of bluffs for ten miles or more. The rock varies from nearly a full anhydrite, with less than two per cent. of water, to the ordinary hard massive gypsum with 20 per cent. or more water bound up in the crystal. This ledge is very hard and resists erosion, giving form to much of the typography in the region where it is found. The rock is sometimes white or pinkish and takes a good polish. It is known locally as the "marble ledge," and attempts have been made to utilize the rock as building stone. Prof. Gould, of the territorial University, who has been studying the gypsum deposits in that region, states that the stone is of little value for building.

The Winters Gypsum Co. has been incorporated at Sandusky, Ohio, with a capital stock of $100,000.00. The incorporators are: C. A. Winters, George H. Gaw, L. B. Winters, Charles C. Winters and J. F. Williams.

The Keystone Plaster Co. has leased the building formerly occupied by the Central Plaster Board Co., at Chester, Pa., and will manufacture plaster boards in addition to the work already being done by that company.

(Continued from first page.)

CHAS. D. WALCOTT, LL. D.

had occupied the greater part of the work of previous years.

The development of this idea was naturally a slow process, as it required men of large practical experience in field work, with practical knowledge as to the location and development of ore and mineral deposits, absolute knowledge of the topography of the country and the ability to conform the knowledge obtained from work in the field to the needs of the people.

In connection with this, several enterprises have been undertaken and carried out. One of these has been the co-operation between the topographers of the United States Geological Survey and the work of the General Land Office, in which the maps issued separately by these offices are combined, as in the case of the map of Indian Territory, where much work has been done by both offices the results of the work have been combined into one map made by the United States Geological Survey.

Also a result of a late work of the survey has forest reserves from the surveys made by this department, and the selection by the United States Geological Survey of land suitable for forest reserves, and the classification into forests, mineral and agricultural lands.

Another piece of work carried on by Mr. Walcott's direction is the adaptation of the survey work to the irrigation of the vast amount of arid land of this country, a problem which requires the greatest expert skill, both in the survey of the country, and in the selection of sites for the reservoirs for the irrigation, in order to get the best results and do the greatest good to the homesteader. Congress has voted $5,000,000.00 for the work on irrigation as done by the Geological Survey. This is devoted to the selection of sites for the reservoirs, and building the reservoirs which furnish water to vast tracts of otherwise arid and completely valueless land. These lands are then sold to the settlers at a price somewhat greater than the price placed on the land before the improvement, thus paying to some extent the work done upon it.

Another feature of Mr. Walcott's work for the Survey is the valuable aid as secured by the co-operation of the United States Geological Survey with the surveys of the various States, especially in the collection of the mineral resources of the States.

The results of all this work are incorporated yearly in volumes submitted by the Director to the Secretary of the Interior. In personality Mr. Walcott is very determined, and accustomed to carry out anything that he undertakes. He is very quiet in manner, but strongly impresses his decisive views on those with whom he comes in contact, and this has contributed most forcibly to his success in his work, and also to making the United States Geological Survey an important factor in the work of the Government.

Editorial Rambles.

A DAY AT BEDFORD.

Early last spring, when ROCK PRODUCTS existed only in the form of a prospectus and some personal promises and determinations to make a live, wide-awake paper covering the field which its name implies, I made a trip to Bedford, Ind., for the purpose of spreading the news that this paper would be, and to make a study of this interesting building-stone center. At that time it just looked like 1902 would be a banner year in the Oolitic limestone for which the place had already become famous, and I was pleased to find in making this trip, at the end of the season, that the stone men there have made more money than any year during the history of the industry. They have had a good year's run, with very little trouble to hamper operations, and have rounded out the year by shipping more stone than the year before. I was not able to get the exact figures on shipments, but judge from the information I was able to obtain, that the shipments probably exceeded 1901, 1,500 cars or more, and according to an estimate furnished by H. P. Radley, the Bedford agent of the Monon, the shipments for 1901 were about 12,000 cars.

A BANNER YEAR FOR OOLITIC LIMESTONE.

It was not this additional output, however, that pleased me most, and, in my opinion accounted for the great factor in the prosperity of the year, but it was in that the trade has profited by past experience and settled down to doing business with an understanding of what it cost to get out stone, and an insistance on prices that pay a fair profit. The history of the stone industry of Bedford is like that of many other industries in that there have been periods when cut-throat methods held to such an extent that the best in the trade made but little money, and those who sold stone at an actual loss were many. It seems that there was a time in the industry when people undertook the work of getting out stone without a clear knowledge of what it would cost, and went on the theory that they could furnish it just a little cheaper than the other fellow, and when the other fellow went on this theory, too, there was simply no bottom to prices. Now there seems to be an end to all such as that, and the people in the industry have figured out what it costs to produce stone, and simply decline to furnish it if they cannot see some margin of profit, and the buyer who thinks he is shrewd enough to play one man against another for the old starvation prices, soon learns that that game will not work any more. As soon as the users of stone realize this fact, which practically all of them seemed to do early in the year, they also realize that it is good business, and good for them as well as the producers, for they know that there is no chance for some other man to drive a better bargain, all being placed on a fair and equal basis. This is what it is that has made 1902 the banner year in the Bedford stone industry; this is also in keeping with the doctrine ROCK PRODUCTS has always preached, and I hope they will keep it up, and continue to prosper.

BUSY IN MIDWINTER.

The first time I went to Bedford I took a drive out to the quarries, which are several miles out, encountering enroute so much mud and rain that I only saw one dry spot, and I'll tell you about that dry spot before I am done, but this time I only had one day to spare and could not take the drive, but spent the time among the mills and offices in and around town. At the mill and yard of Mr. Ed. Thornton, (The Bedford Steam Stone Works) they were working away as lively as if it were the middle of the busy season instead of midwinter. Mr. Thornton was out of town, but I was informed that they had a banner year and have more work on hand now than they had at this time last year. In fact, the prospects look brighter than ever before at the time of the year.

Mr. Thornton has been sending out a nice novelty to the trade this year instead of a calendar. The novelty is in the form of a cottage barometer and thermometer. The thermometer tells you when you are getting hot and the barometer warns you of storms and tells you when to take your umbrella along. I don't know just how many of these were distributed, but I'll bet every fellow who got one of these is taking care of it, and it hangs up as an advertisement for the Bedford Steam Stone Works. They had one left in the office, and of course I would not leave the office until it left with me, and now my better half says that if we can put another glass on it to tell when I am going to be late for dinner it will be a priceless instrument.

On my way back to town I stopped in at the mill of the Furst-Kurber Cut Stone Co. and found them working along with moderate speed. This firm works on contracts altogether and does not cut and carry stone in stock except that which is cut to order, therefore, their operations depend upon orders in hand. As might be expected at this time of the year, they are not rushed with work, but they have enough orders on hand to keep them running right along. Mr. Furst said that they expected to run steadily right along during the winter except when it became uncomfortably cold. It is somewhat difficult to operate a stone mill when the temperature goes below 10.

AN ARTISTIC OOLITIC MONUMENT.
Made by the John A. Rowe Rustic Monument Works.

The headquarters of the company are at Chicago, all the business being transacted from that point. the Bedford branch simply does the work.

THE OOLITIC MONUMENT BUSINESS.

The next place I visited was the John A. Rowe Monumental Works, which is a half mile out of town up the S. I. Railroad, but as I have said before, it is worth the trip up there any time to see them make rustic work out of Oolitic limestone with pneumatic tools. Mr. Rowe has been a great pusher in the field of Oolitic limestone monuments, and wherever he has once introduced this stone he has no trouble selling right along, and ships these monuments East, even right into the heart of the granite and marble regions, West as far as the West Coast, North to Canada and South to Jacksonville, Fla. In fact, he ships practically all over the country, and the future of the Oolitic monument business in general, and his in particular, looks mighty bright. There is no shape or form of monument imaginable, but what he can produce, as well as any effect from rustic to highly polished work. No man can pay a visit to his monumental works and look through the designs and stock on hand without becoming impressed with the fact that this stone is great material for monuments, and Mr. Rowe knows how to handle it. Speaking of the past year's work, he said it had been an excellent one and people had been buying quite freely of the more expensive designs of monuments. Mr. Rowe is a wholesaler, and sells exclusively to the retail trade. The outlook for business is very bright for the coming year and he expects a larger trade than ever before.

In addition to monumental work they also do quite a lot of structural stone work at this plant, and part of the plant is equipped especially for this purpose, having planers, etc. They have on hand now an order for the Colorado building, which is being built by Thomas Walsh, at Washington, D. C., that will require about 75 car loads of stone, and this will keep his works going to pretty well along in the spring even should no further orders turn up, as they have not shipped more than 12 or 15 cars of the order yet. This limestone is being used for the front and sides of the building in question, and it is quite a nice order for nice material.

BEDFORD'S "DRY" SPOT.

Mr. John A. Rowe is also manager of the Indiana-Bedford Stone Co., which has a quarry and mill out from town a few miles where the bulk of the quarries of this district are located. I remember this quarry distinctly, because it was a trip to this quarry during my first visit that furnished me the only spot I found in the country free from mud, and that brings me back to the story of that one dry spot. I had been wading around in the nastiest and stickiest mud I had ever seen practically all day during my first visit to the quarries, and had at last climbed in the buggy and started back to town when on crossing the railroad I looked over to my right and saw a long, high trestle and at the opposite end a quarry. I told the driver to stop right there, that there was the first dry spot I had seen all day long and I was going to walk over that trestle and see the quarries and mills of the Indiana-Bedford Stone Co. It was nice walking across the trestle, but the joke on me was that I had bought an umbrella that morning to keep off the rain, during the intermittent showers of the day, and left the umbrella in the buggy and the rain caught me when I was about midway of the trestle. But a trip over there was worth the wetting any time. They have a fine quarry and a nice mill over there and while I was in Mr. Rowe's office on this trip I was fortunate enough to find a picture of that trestle, with the track better filled than when I occupied it for the picture shows it filled with a train load of Bedford's best Oolitic limestone coming out of the quarry of the Indiana-Bedford Stone Co. The picture does not show any part of the quarry except a little pump house down in the valley which supplies the water for the works, but it is a good picture and it is the one spot around Bedford that never gets muddy, and that trestle helps to bring stone out of a mighty good quarry that is operated by one of Bedford's most thorough stone men.

AMONG THE DOWN TOWN OFFICES.

When I went down town again and began visiting among the offices I found Mr. Robert Reed, of the Oolitic Stone Co., of Indiana, taking things comparatively easy and looking happy. He said that they rounded out a good year and he thinks business will be good this year, too, but he also says it is too early in the year to say positively. He informs me that his brother, Samuel Reed, who has charge of the quarries near Bloomington, is well and has things moving along nicely at the quarries. At this time of the year the work consists largely in stripping and doing a little top quarrying and getting in shape generally to do business in the summer.

C. S. Norton, of the C. S. Norton Blue Stone Co., who makes a specialty of quarrying hard dark blue stone for heavy work, most of which goes East, told me that he had not only wound up an excellent year, but that the new year is opening up brighter than ever before. He has just obtained a big Government contract that of itself will make him a fair business next year, even if he gets no further orders, but he is not like a man that will keep still and not get more orders.

SOME NEW YEAR CHANGES.

When I went to look up The Perry-Mathews-Buskirk Stone Co. I found they had moved their offices since I was last there. They are now on the corner facing the square as you go up toward the Monon office where they moved on the second floor of a new building last September. I found in visiting the office that there had also been some changes in the official heads of the concern, and also of the superintendents at the quarries.

The general offices of the quarry are in the Chamber of Commerce Building, Chicago, Ill., and formerly Colonel L. T. Dickason was president, W. C. Crosier was second vice president and manager, but since the change of the officials, which was formally made only a few days before my visit, though it was virtually understood the first of the year, F. S. Gorton succeeds Colonel Dickason as president and Capt. D. McL. McKay succeeded W. C. Crosier as second vice president and manager. Colonel Dickason has also retired from the presidency of the Consolidated Stone Co. and has been succeeded in that company by H. A. Hickman, as president, and E. L. Borst has become second vice president and manager of the Consolidated Stone Co., succeeding Captain D. McL. McKay, who has become manager of the P.-M.-B. George K. Beddoe is in charge of the Bedford office of the P.-M.-B. Speaking of the year's business of the company, Mr. Beddoe says, that taking the year as a whole, they shipped out practically the same amount of stone they did during the year 1901. They were hampered a little about shipments early in the summer on account of a strike in the building trade in New York, but during the latter part of the summer they were quite busy, and more than made up for the little slowness early in the year. In fact, they were called on to ship out at such a lively rate that the shipping practically caught up with the quarrying operations and led the quarrying an uncomfortably close race. The P.- M.- B. quarries, next to the Bedford Quarries Co., are the biggest shippers of Bedford stone, and are said to ship about 2,000,000 cubic feet annually. The Consolidated Stone Co., though a separate institution, is to some extent owned and controlled by the same interests as the P.-M.-B., is said to ship about half this amount.

A BUNCH OF GOOD FELLOWS.

The Bedford Quarries Co., which is the biggest operator in the field at Bedford, formerly had an office up town, but they moved into the S. I. Railway depot early last summer. The railway people occupy one end of this neat stone structure and the quarry company the other. The general offices of the company are at Chicago, and they have practically two offices at Bedford, for while the office proper is in town, there are two mill offices at the quarries, which call for so much of the time of the local manager that it is sometimes a question of whether the offices are out there or in town. H. L. Rice, who is cashier at the Bedford office, represented the element of beauty in the quartette of good fellows that showed me the way on my first trip to Bedford, and I was sorry to find him gone out to the quarries when I called at the offices in town, because I have got a warm spot for those boys who helped me along on my first trip. I was informed that business was going along as usual, and that Michael Wallner, who was formerly superintendent of the mills out at the quarries had resigned and connected himself with the local branch of William Bradley & Son, Butler and Nevins Streets, Brooklyn, N. Y. The Kentucky member of that same first quartette, Mr. Ashberry Pease, who was formerly draftsman at the mill, has succeeded Mr. Walner as superintendent. Dave Torphy, who was superintendent of the quarries, evidently concluded there was more money in the saloon business, for he is now operating a saloon and W. W. Whitney superintends the quarry for the Bedford Quarry Co. John Torphy, the other member of that great quartette, who was at the time superintendent of the P-M-B quarries, is now with Oliver Bros., the famous chilled plow men, who are opening up quarries at Victor, Ind., in what is known as the Bloomington district.

A BIG STONE CONTRACT.

I had already observed that there was a new stone yard and cutting shop at Bedford, and had been informed it belonged to William Bradley & Son, of Brooklyn, N. Y., who have a contract to build the new postoffice at Indianapolis, Ind., and when I found that Mike Wallner was in charge of the works I felt like I was at home before I got to the office. Mr. Wallner took charge of the local branch of the Bradley & Son with its inception last August, and when they came to Bedford to make arrangements to get out stone for the Indianapolis postoffice he built the sheds and tramways. He will put in another tramway and traveler, and there is no question but what he will make things hum around there this summer. The contract involves 800 or 900 carloads of stone and it will take about two years to complete it. He has 40 stonecutters at work in the shed now, and the first thing I saw as I came over the hill to the office was a lot of finished work, including a number of parts of large columns loaded on cars. The machine work is being done by the Bedford Quarries Co., but all the hand work and finishing is being done at the new sheds.

While it looks like Mike has enough on his hands in this contract for two ordinary men, he has other business interests. He is president of the Bedford Building Supply Co., dealers in lime, cement and all kinds of building material, of which G. W. McCannon is vice president and manager, and G. K. Wallner is secretary, and he tells me that they have quite a nice little business in the building material line. He also had a contract to do the stone work at the new Carnegie library, which is just being completed at Bedford. He walked down town with me and we took a look at this library, of which the town is justly proud. It is built of blue limestone up to the first floor and bluff stone above that point, and is as fine a bit of stone work of this kind as a man will see anywhere, and will be a lasting attest to the beauty and quality of the Oolitic limestone as a building material, as well as to Mike as a builder. While we were looking over the building I was introduced to Mr. Bailey, of Bailey & Koerner, contractors of Evansville, Ind., who have the contract for the interior finish of the building.

SHORT CUTS IN CUBING STONE.

The trior of us talked shop for a while, and incidentally got around to the subject of cubing stone. Now, this has been a pet subject of investigation with me for a long time. Not that I have found out much, but I have always had an idea that there was quite a lot to find out if we could get the boys to swapping ideas on the subject. So, of course, when we came to the subject of cubing-up stone, I asked if they could tell me anything about short cuts in this work. And then do you know, Mike Wallner sprung a system of figuring on me that makes the old cube root system of my school days look like 30 cents, and made me think of duodecimals with the decimals cut off. He told me to take the most difficult sizes to figure that I could think of, with all kinds of fractions, and he worked the problem out for me and showed me how it was done. I have got a general idea of it now, and may try to explain it some day, but right now I would make a mess of it, but I want to say that there are short cuts for figuring that the best mathematicians do not dream of, and some of these boys who cube stone every other day of their lives know them.

The Brooks-Curtis Stone Co. is one of the new industries in Bedford the past year, who are operating under lease the mill of the old Bedford Sawed Stone Works. They report that they have had a very good year's business, but the expenses incident to their first year in business has swallowed up part of their profits. During the year they built a new cutting shed for finishing work by hand and had a lot of expense incident to getting in shape to do all kinds of work, but things are moving along nicely now and they say the prospects ahead are very bright.

I had a strong desire to look up the Portland cement Plant that the Midland Portland Cement Co. is building at Bedford, but I found it was a mile out of town, and in the other direction, too, from the mill and I was not able to get down to it. I tried to find Mr. George W. McDaniel, of this company, but he was out of town. From the information I could gather, they have built a crushing plant out there to crush stone for the construction work and have made preparations generally for erecting the plant, and contemplate going ahead with the work as soon as the weather will permit.

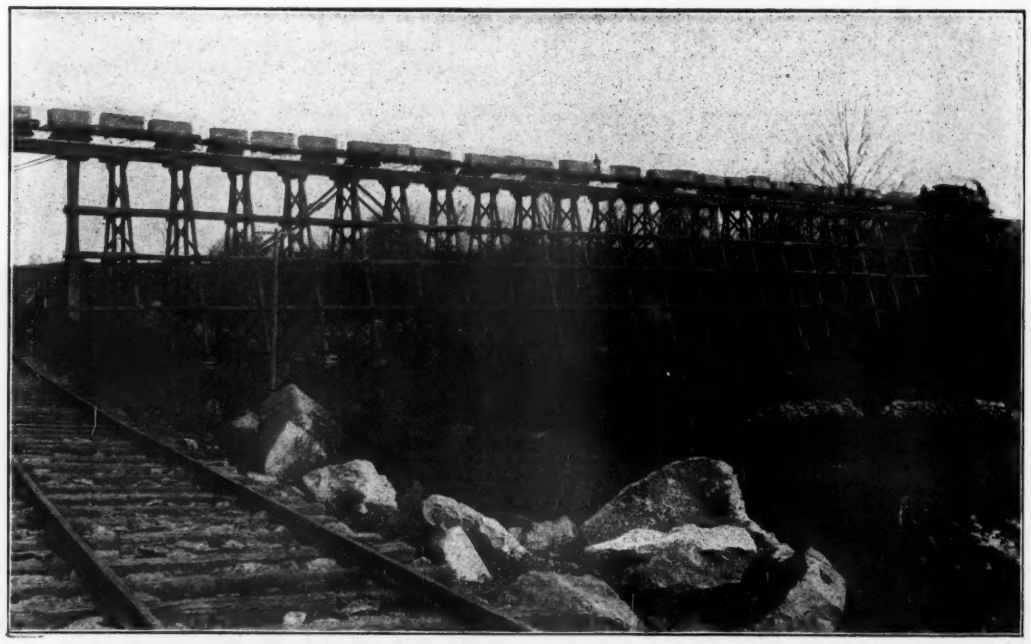
MORE OOLITIC MONUMENTS.

Another man in Bedford, who is pushing the Oolitic limestone in monumental work, is John Naugle. Mr. Naugle came to Bedford about two years ago and began monumental work in a small way, and has now built up quite a nice business and is taking steps to enlarge his shop and add wire saws. He says that this has been a very good year for him, and that while business is a little slack right now, he really has as much as he can do, for it is difficult to work when the stone is frosty, and he has not enough storage room in his shop to keep sufficient stone inside and free from frost. He has the foundation laid now for extending his shop and also has a little engine house built and a small portable engine, and expects to spread out next spring. When he said he intended to put in wire saws I asked him if he intended to make structural stone work, and he replied that he intended to do any kind of work in the stone line that came within the limits of his appliances and offered a moderate profit, as it is profit he is looking for just like any other man in business. His monument business, too, is of the wholesale class, and he sells to retail dealers only. I was glad to see indications of growth about his business, because he is a pioneer monument man and is a faithful worker who deserves to thrive.

JUST A GLANCE AT MITCHELL.

There is a little town in Indiana, between Bedford and Louisville that has been making some strides in the rock products line the past year, and that is Mitchell. I did not have time to stop, but I got out and looked around in the hope of locating the genial former resident of Louisville, George Kice, secretary of the Mitchell Lime Co. I did not find him, but I am satisfied he and the other boys of his company are pushing things along with their usual energy, and I have been informed that they have recently bought another Sturtevant mill to replace a Buhr mill at their stone crushing plant. I found on inquiry that the Mitchell plant of the Lehigh Portland Cement Co. has been running steadily ever since it started last summer, and the demand for the cement has been so active that the full capacity has been sold right along as fast as they could make it, and no stock to speak of has been accumulated yet. The plant is built with a capacity of 2,000 barrels a day.

J. C. T.



A Trainload of "Bedford's Best" Coming Out of the Quarry of the INDIANA-BEDFORD STONE CO.

Cement.

Raw Material for Portland Cement.

(Note—We have had so many calls for back numbers of ROCK PRODUCTS containing an article on raw material for making Portland cement that we are reprinting part of the article in question, with additional matter, on the subject of raw material.)

The first matter for examination in detail when we go to consider making Portland cement, is the raw material, and it is in some respects, the most difficult to explain clearly. The chemistry of cement is still something of a mystery, even to our most brilliant scientists, so the ordinary mortal can easily get beyond his depth in an effort to explain the chemical action of the combined materials entering into cement.

Portland cement is, broadly speaking, formed by burning a mixture of lime, silica and alumina, which has been intimately mixed and finely ground, and then grinding the clinkers to a fine powder again. The product must have the quality of hardening, either in water or air, after being mixed with water, and that either alone or when combined with sand, and should have a gradual increasing strength with age and retain a practically constant volume. Now, it does not matter from what source the raw material comes so far as the cement is concerned, just so you get the proper proportions of the right substances.

Limits in Ingredient Proportions.

Of the proportions of ingredients, Lathbury & Spackman, the well-known engineers and designers of cement plants, give the following as marking the practical limits:

	Minimum. per cent.	Maximum. per cent.
Silica	19	26
Alumina	4	10
Iron	2	5
Lime	58	67
Magnesia	0	5
Sulphuric acid	0	2.5
Alkalies	0	2.8

Three Important Constituents.

It will be readily seen from this that three constituents, lime, silica and alumina, form the important ingredients, and other matter that enters into the composition of raw material is generally there by virtue of the fact that raw materials are never pure and they cannot well be entirely kept out. Some authorities claim that iron oxide acts the same as alumina, and that cement can as well be made with the alumina replaced entirely with iron oxide, but there is some difference of opinion on this subject, so I will drop it at that before I get too deep in chemistry, merely mentioning it to explain why the two items are sometimes given together, as will be seen by the following, which is given as representative of a high grade Portland cement analysis:

	per cent.
Lime	60
Silica	25
Alumina and oxide of iron	12
Magnesia	1
Alkalies	1
Residue, etc.	1
	100

The Natural Cement Rock.

With the maximum and minimum limits of ingredient proportions established, in looking for raw material for cement it is only a question of getting something that will come within these limits, either in one substance or material, or a combination of material. What the average man wants to know, however, is where he may look for this raw material, and how he may distinguish it when he finds it, and this is not as easy to make clear as it might be. The first raw material to be used extensively in this country was natural cement rock, which has already been extensively used in making hydraulic cement, and this natural cement rock continues to-day as probably the leading source of raw material. Up in the Lehigh, Pennsylvania, district, which is the center of the Portland cement industry to-day, natural cement rock is used almost altogether. Where the composition runs too low in lime they use limestone along with it, and where it runs too high in lime they generally mix a little shale with it to get the proportions right, but the same bed of natural cement rock that furnishes material for hydraulic cement is also used in making Portland cement.

Magnesia Is to Be Avoided.

When we come to apply natural cement rock generally however, to Portland cement-making we find that in many localities it runs too high in magnesia, and is therefore barred from Portland cement making unless some means is discovered for doing away with magnesia, or the fact is established that magnesia will not prove detrimental. Just what harm it is magnesia does I am not able to say, nor have I been able to get much light on the subject by diligently questioning those who ought to know. Some condemn it generally, and others say that while magnesia in lime or natural cement does not do any harm, it becomes a harmful ingredient when subjected to the high temperature necessary in calcining Portland cement. These conclusions may be altered more or less in the future, but for the present we have already set a standard or basis for the ingredients of Portland cement which places the outside limit of magnesia at 5 per cent., and above this is not desirable, so any raw material that runs above 5 per cent. magnesia is out of consideration when it comes to making Portland cement on the present basis.

Limestone and Clay.

Probably the next combination of raw material in prominence for portland cement making is limestone and clay. In the limestone, however, this matter of magnesia must still be kept in mind, for it is evident that if the natural cement rock running above 5 per cent.. magnesia will not do, limestone running above that amount will not work either. The most desirable limestones are, of course, those running as nearly pure carbonate of lime as possible, and this is combined with clay to furnish the silica, ilumina and oxide of iron in proper proportions. Given a comparatively pure limestone, the next problem is the finding of a clay that will furnish the other ingredients in the right proportion, but I do not feel that I would be able to select such a clay by simply looking at it myself, so therefore cannot give clear instructions for its selection by others. Clay varies so much in its mineral composition that there is no recognized standard by which we may select it, except from its analysis, but knowing the ingredients wanted and having the lime before you, it is simply a question of sampling clay and having it analyzed to find the other ingredients. The term clay means in this sense any and everything used in the clay industry, and, of course, includes the shale or stony clays also.

Some Other Raw Materials.

Lime, as you will observe is the principal ingredient, but we are not confined to limestone as we generally know it, for this ingredient. There is lime in the softer form of chalk and marl, in fact, the marl beds of the Southern Peninsular of Michigan, are a great source of raw material for cement. Another raw material for cement is gypsum. Gypsum, however, is generally used for plaster and it might be considered worth more in that line than in the manufacture of portland cement. Among the Michigan mills it is sometimes found desirable to use a combination of marl, gypsum and clay to get the ingredients desired. Cement is also manufactured from a combination of blast furnace slag and clay. In fact, to sum the matter up short, any material or combination of materials out of which we can get the ingredients indicated above without including too much impurities will make Portland cement.

It must be remembered, however, that getting a combination of material that will make cement does not by any means solve the problem of manufacturing Portland cement. In fact, the raw material is the small end of the problem, and the raw material for this work is so plentiful in the United States that it is of very little value primarily unless it is of such a character and so situated that it will offer advantages in the way of making cements cheaply.

Fuel as a Raw Material.

Of course the first essential of a cement plant is the raw material from which you can get the right chemical composition, but this same material must be studied from a mechanical standpoint to decide whether or not it can be made into cement at a profit. From the mechanical problem of making cement there is another raw material which we have not considered so far, which is today the most expensive item in the manufacture of cement, and that is fuel. It does not matter what or how much material you have, if there is no fuel available, you can not make cement, so whether you are willing to class fuel as raw material or not, it is an essential factor in the industry. It is quite frequently estimated that three-fifths of the cost of the manufacture of cement is in the single item of fuel, but this cost, of course, depends materially on where and how your fuel may be obtained. I talked with a man recently on this subject who said that the difference in the cost of manufacturing cement at two plants which he was connected with sometimes went as high as 30 cents a barrel in favor of the one which was located where cheap coal was available.

How Plenty of Oil May Help Matters.

Somehow I have an idea that oil will enter as quite a factor in the cement industry in the near future at the fuel end. I know that erecting engineers who make a specialty of cement plants are looking longingly toward the Southern oil fields, and when any of them find assurance of a flow of oil that is available in the same locality with material that will make cement there will be something doing. Moreover, even if oil does not come in largely as a direct factor, I am thinking that it will count indirectly by coming in so much as a fuel for other purposes that coal will be cheaper, and thus the fuel problem will be reduced just the same—only not as much.

A Question of Marl and Rock.

A point worth remembering along this line, too, is that the factor of fuel is not all embodied in the price and availability of the fuel itself, but may be affected by the other raw material in use. Take, for illustration, a plant making cement from marl and clay, and another one making cement from limestone and clay, and there is room for quite a difference in the fuel required. This cement man I was talking to about the fuel problem, says that he believes it takes nearly 25 per cent. more fuel to burn marl and clay than it does if limestone is used instead of marl—because of the moisture in the marl. But I am thinking that this depends on the process, and even then you can not look at the matter just that way, for it costs more to quarry the limestone and crush it than it does to mine the marl, and it is a question of which costs more. Where fuel is comparatively expensive there is a chance in favor of the limestone, but if the marl beds are near cheap fuel the favors are likely to be the other way. So you see there are factors that must be considered together—wheels inside of wheels—and these are the things we need to know more about.

The Ideal Raw Material.

It seems to me that the ideal raw material for cement under ordinary circumstances is a soft limestone commonly called rotten limestone, or chalk and clay. In other words, the softest possible material with as small amount of moisture as possible in its make up.

There is limestone and limestone, and it seems to me that some of the hardest limestone I ever saw is that which is used in the Lehigh Valley district, while some of the softest was some samples from Southern Indiana, and belonging to what is known as the Oolitic formation. There is a wide difference, however, even in this Indiana Oolitic limestone, some of it appearing in hardness almost to the point of the hardest compact limestone known, and it may be found in almost all degrees of comparative softness from that on down to the point where you can almost crush it in your hand. Just what quantities there are of this soft material I do not know, for I have only seen some small samples, but any man who investigates Indiana limestone to any extent will very soon discover that there is a wide variation in its make up.

C. M.

The Silexoid Portland Cement Co. has been incorporated at Union City, Mich., with a capital stock of $20,000.00.

The reconstructed plant of the Empire Portland Cement Co., at Warner, N. Y., will be put in operation March 15. The manager of the company is Charles C. Lockard. The plant was destroyed by fire about a year ago and is being rebuilt at a cost of $80,000.00.

The Possibilities of Furnace Slag.

We have discussed heretofore the manufacture of slag cement, but the utilization of iron and steel slag, in a more general sense, is discussed in "Mineral Resources of the United States, 1901," of the United States Geological Survey, by Mr. Edwin C. Eckel, who says that, although the greater portion of the slag annually produced by iron and steel works is not available, a great deal of slag is used in the manufacture of cement and of slag brick, as a fertilizer, and in the form of mineral wool; also, to a less extent in the manufacture of paint stock, alum and glass, and a considerable quantity is disposed of less profitably as road material, railroad ballast, and in land reclamation.

Cement the Most Important Use of Slag.

The most important of these uses of slag is in the manufacture of structural materials, especially in the manufacture of hydraulic cements. Slag cement is produced by pulverizing, without calcination, a mixture of granulated basic blast-furnace slag and slaked lime. This product, although really a pozzuolanic cement, is usually marketed as "Portland cement," in spite of differing from true Portland cement in manufacture, composition and properties. Six or eight plants are at present engaged in manufacturing slag cement in the United States, the production for 1901 being 272,689 barrels. As slags cooled slowly are only feebly hydraulic, the slag used in the manufacture of slag cement must be cooled as suddenly as possible. This is done by bringing the slag, as it issues from the furnace, in contact with a jet of cold water. This granulates the slag, renders it strongly hydraulic, and removes most of the sulphur. True Portland cements can be made from mixtures of which one element is blast-furnace slag, in which case the slag is ground, intimately mixed with powdered limestone, and the mixture the calcined and reground. Two plants are engaged in the manufacture of Portland cement from slag and limestone in the United States. In England blast-furnace slag has been somewhat largely employed as an adulterant of Portland cement.

The Manufacture of Slag Brick.

Slag run into moulds on issuing from the furnace furnishes blocks which have been used for paving, notably in Philadelphia. These slag blocks are very durable, but objectionable because of their slipperiness, which, in English practice, has been overcome by the form of the mold used.

The manufacture of slag brick can hardly be considered as being more than a specialized phase of the manufacture of slag cement. On issuing from the brick machine the bricks are placed on racks to dry, which takes from six to ten days, at the end of which time the bricks are ready for use. Slag bricks are light in color; they weigh less than clay bricks of equal size, require less mortar in laying up, and are equal to clay bricks in crushing strength.

Phosphatic Slag Fertilizers.

The highly phosphatic slags produced by basic Bessemer converters are valuable fertilizers, and in Germany, especially, large quantities are annually sold under the name of Thomas silicate. These phosphate slags are more efficient as fertilizers than in mineral prosphates. The slight development of the basic Bessemer steel industry in the United States necessarily renders the use of these phosphatic slags of less commercial importance than in Europe. During 1901 about 1,000 tons of phosphate slags produced in the United States were sold as fertilizer. This American material has been tested by the American Agricultural Experiment Station, which reports that slag phosphate gave a greater total yield than did any of the other insoluble phosphates. The slag produced in steel plants using the open-hearth process are less valuable as fertilizers than those produced by basic Bessemer converters, as they contain less phosphoric acid and more silica and lime than the basic Bessemer slags.

"Mineral Wool" and Its Uses.

Over half the material marketed as "mineral wool" or "silicate cotton," is derived from slag, the remainder being manufactured from natural rocks of several different types. During 1901 about 3,500 tons of mineral wool were made from slags in the United States. The most important property of slag wool from a commercial point of view is that it is a very poor conductor of heat, which property renders it valuable for all uses for which a non-conductor is desirable, as steam pipe coverings, safe linings, etc.

Slag has been utilized in the manufacture of paint stock, in the preparation of alum, and, in small quantities, in the manufacture of inferior grades of glass.

About 5,000 tons of slag were sold in 1901 in the United States for use in constructing macadam, highways and for railroad ballast. Sections of road constructed in New Jersey with slag macadam, under State supervision, have proved entirely satisfactory. Slag has been used in highway construction to some extent near Buffalo, N. Y., to a greater extent in Pennsylvania and Alabama and most extensively in the counties of Baltimore, Howard and Prince George, Maryland, where, under certain conditions, it has been found a highly satisfactory road material. In several States, notably in Alabama, slag is largely used as railraod ballast. Large quantities of slag are also used for reclaiming land and filling abandoned mine workings.

The Lawrence Cement Co., Seigfried, Pa., has been adding to the equipment of its plant and also to its quarry holdings.

The Western Portland Cement Works, Yankton, S. D., has closed down for the winter and in the meantime will be considerably improved and enlarged.

The men working in the cement mills in the Louisville district have been notified that they will receive an advance of 10 per cent. in wages during 1903.

The Quaker City Portland Cement Co., of which Mr. Carhart, of the Northampton (Pa.) Portland Cement Co., is president, is preparing to build a large plant near Easton, Pa.

J. H. Queal & Co., Minneapolis, Minn., dealers in lumber and cement, have filed amended articles of incorporation increasing their capital stock from $250,000.00 to $1,000,000.00.

The Penn-Allen Portland Cement Co. has been incorporated at Allentown, Pa., with a capital stock of $200,000.00. The incorporators are: Avon Burnes, W. H. Gangerwen, S. Addison Wershampel, William R. Yenger and James K. Bowen, Allentown.

James J. Hill is said to have purchased 12,000 tons of Belgium cement for constructing a tunnel which the Great Northern Railway is building at Seattle, Wash.

J. Frank Fields, representing New York parties, is figuring on erecting a cement plant near Hancock, Md.

At a recent meeting of the board of directors of the Reading (Pa.) Cement Co., a dividend of 6 per cent. was declared on preferred stock and 5 per cent. on common stock. Business is prosperous with the company and it is said that they will make additions to the plant and increase its capacity to 700 barrels of Portland cement a day.

The Kalamazoo Portland Cement Co., Ltd., has been incorporated at Kalamazoo, Mich., with a capital stock of $1,000,000.00. The incorporators are: Stephen A. Armstrong, Celina, Ohio, president; George A. Douglas, Battle Creek, Mich., vice president; Robert R. Gordon, St. Mary's, Ohio, treasurer, and N. Hall, Kalamazoo, secretary. The company has secured property eight miles southwest of Kalamazoo, composed of marl beds, etc., and it is said that a cement plant will be erected at once.

The stockholders of the Castalia Portland Cement Co., held a meeting at Pittsburgh, Pa., December 13, and declared a dividend of 10 per cent. and elected officers for the ensuing year. It also decided to make a number of improvements in its plant. The old officers were re-elected for the coming year as follows: M. J. Prentice, president; George W. Hackett, general manager; Charles L. Johnson, assistant manager and sales agent. Mr. Johnson will have his headquarters at Sandusky, Ohio, as in former years.

The Cayuga Lake Cement Co. held its annual stockholders' meeting recently at Ithaca, N. Y., at which it was reported that the business for the year has been very satisfactory, with bright prospects ahead for the present year. An election of officers resulted in the re-election of the men who have already served in that capacity, who are as follows: M. E. Calkins, president; George Livermore, vice president, who was chosen to fill the vacancy caused by the death of L. H. Smith; and Charles E. Treman, secretary-treasurer. The company's plants are located at Portland, N. Y.

Salt.

The Pennsylvania Salt Manufacturing Co., Philadelphia,, Pa., contemplates building an addition to its plant to cost $10,000.00.

The Palestine (Tex.) Coal & Mining Co., recently made its first shipment of salt. It is said to be of fine quality. Reports from down there indicate that there is a bright outlook for this company in the salt business.

The Moretown Salt Co. has been incorporated with a capital stock of $40,000.00, by Thos. W. Butler, of Marine City, E. J. McCormick and Fred C. Colton, of Port Huron, Mich., George Zink, of St. Claire City, and others.

The Dennis Bros. Salt and Lumber Co. has been organized at Grand Rapids, Mich., to operate a plant at Manistee, Mich., which was formerly operated by the Union Lumber & Salt Co. The company is capitalized at $500,000.00.

The Kansas City Salt Co.,Sheidley Building, Kansas City Mo., who make a specialty of the Hutchinson brand of salt, have recently increased their manufacturing capacity, which is under the personal supervision of S. Mathews at Hutchinson, Kan., and he is said to be the most expert salt man in the world.

Consul G. W. Roosevelt writes from Brussels in regard to salt mining in Belgium, that according tc the Society of Archæology of Brussells, recent borings near Beeringen have resulted in the discovery of a mine of rock salt at a depth of about 3,000 feet. This is expected to add greatly to the commercial wealth of the country.

The Hiawatha Salt Co., of Wyandotte, Mich seems to have struck lots of salt and expects to have a plant in operation in three or four months, which will represent an outlay of $75,000.00. Deputy United States Marshal Thomas E. Mathews will be the general business manager; Homer E. Buck, manager of sales department, and Robert McGibbon superintendent.

The new Rittman Salt Co., which has offices at Rittman, Ohio, has bought land and secured leases on other land and will build and operate a salt plant to cost $125,000.00, that will have a capacity of 1,200 barrels a day. The officers of the company are I. Stein, president; A. J. Frederick, vice president; F. O. Ricket, secretary and Leon Mansell, treasurer.

The Michigan Salt Output.

The report of Salt Inspector Dunnell for the State of Michigan, shows a decrease in production for the year ending November 30, of 389,126 barrels as compared with the previous year. The inspector explains this falling off as due to the high price of fuel and the present low price of salt, and predicts that if these conditions continue the same there will be less salt manufactured in 1903.

During the year covered in the report, Inspector Dunnell and his six deputies inspected 4,994,245 barrels. By district, the inspection, which very nearly represents the production, was as follows: Manistee, 2,332,507 barrels; St. Clair, 924,948; Wayne, 734,844; Mason, 514,745; Saginaw, 331,250; Bay, 137,903; Midland, 14,967; Iosca, 3,045.

In Bay County the inspection was: F. E. Bradley, 24,745 barrels; Pitts & Co., 11,908; Eddy, Sheldon & Co., 1,265; McEwan Bros. & Co., 4,583; Michigan Chemical Co., 980; Theo Hine, 3,952; Michigan Manufacturing Co., 23,228; Kern Manufacturing Co., 25,625; Joseph Cousson, 500; Mershon Schuette, Parker & Co., block No. 2, 21,-521; North American Chemical Co., 12,633; E. Hall, 6,603; total, 137,903.

The inspector's fees at three mills a barrel amounted to $21,895.23; the salaries and expenses of his force were $12,336.60. A rebate of 8-10 of a mill, amounting to $3,459.48, was given, leaving $1,099.45 on hand at present.

Sand-Brick.

Another German Brick—Quarzitol.

Consul Henry W. Diederich writes from Bremen, Germany, at some length concerning a new building material called "Quarzitol," from which we quote the following:

"Of late years, many processes or systems of making brick of sand with a slight admixture of slacked lime have been invented and put into operation. Some of these have their merits, others are entirely worthless. Within the wonderfully short time of four years, not less than eighty factories sprang into existence in Germany, engaged in manufacturing sand-lime bricks.

"My attention was recently called to a new brick, which seems superior to the clay and other products. It is called quarzitol, so named because it is made of flinty sand, and some chemical admixture. It is said to contain no clay, no lime, no cement, and no calcined plaster; in fact, nothing but fine, clean, quartz sand and some chemical binding material. The chief qualities claimed for this new brick are: It is very strong and firm, owing to its fine texture; it offers great resistance; it is water and fireproof; it is porous, yet does not absorb much water; it is not brittle, hence will not break, but can easily be chipped off with a hammer or cut with a chisel or saw; the process of making it is very cheap and every piece cut or broken off can be again utilized, thus saving both time and material.

"Of course, all inventors are enthusiastic. The inventor of quarzitol asserts that he can use his material for all the purposes for which mortar and cement are commonly used. He claims that: quarzitol is not only the best material for making bricks and mortar, but also that it is well adapted for the manufacture of all kinds of articles in the cement and pottery line. He claims that: .

"1. The artificial stone made of quarzitol equals the best kind of rock for facing masonry work.

"2. It can be readily produced in any desired form or color, and also with any kind of surface.

"3. The quarzitol stone is excellent for bridge building and the construction of sewers, because of its very firm and solid texture, and because it absorbs but very little water.

"4. Being fireproof, it is well adapted for the construction of chimneys and fireplaces, and also for covering boilers, thus replacing the so-called firebrick.

"5. Quarzitol furnishes excellent roofing material, far better than cement or tin or anything else now in use for this purpose. The entire quarzitol roof can be made, as it were, to form one piece, and is much lighter in weight than any other material.

"6. Quarzitol may also be used for imitations of marble and granite for staircases, vestibules, bathrooms, window sills, covers for wash tables, etc.

"7. Quarzitol floors can be made to look like lineoleum or an imitation of stone or wood, and having no cracks or fissuers, they are well suited to insure cleanliness and wholesome hygienic conditions in residences, hospitals, hotels, etc.

"Brickmaking, however, is not in my line. I am not an expert, and can not help but remember that many things of like nature have started out well but failed when they reached the crucial test of practical adaptation. But, from what I saw, I feel satisfied that this new brick or the material it is made from is bound to have a future in the building line. It certainly does not cost much to test this newcomer, as sand is plentiful, and but little machinery is needed. At any rate, I deem it my duty to call the attention of builders, contractors and makers of building materials to this quarzitol brick, for which letters patent have already been granted in the United States. Tests are to be made with the new brick in the Royal Technical Institute at Potsdam, and I may be able to send additional information in course of time."

C. S. Laraner is starting to manufacture artificial stone at Sac City, Iowa.

The City Stone and Sidewalk Co., Cedar Rapids, Iowa, has filed a petition in bankruptcy.

J. H. Land, of Hamilton, N. Y., is organizing a company to manufacture brick out of sand.

The Guarantee Cement Sidewalk Co., Cedar Rapids, Iowa, has gone into the hands of a receiver.

The Rice Lake Stone Co., has been organized at Rice Lake, Wis., to manufacture cement sidewalks, tile and building blocks.

The Composite Stone and Brick Co., of New York City, has been incorporated at Dover, Del., with a capital stock of $200,000.00.

W. K. Gochnauer, of Appleton, Wis., has purchased the right to manufacture the Palmer Hollow concrete stone in that locality.

The Illinois Composite Stone Co., has been incorporated at Peoria, Ill., to manufacture artificial stone, with a capital stock of $25,000.00. The incorporators are: A. F. Robbins, H. A. Barrett and Adam Saal.

The Concrete Stone Co., of Youngstown, Ohio, has been incorporated with a capital stock of $100,000.00. The incorporators are: Albert A. Pauly, Richard Garlick, W. W. Bonnell, Albert H. Beuhrie and Myron E. Dennison.

The Birmingham Sand Brick Co. has been incorporated at Birmingham, Ala., with a capital stock of $10,000.00. The incorporators are: H. P. Tissier, H. R. Dill and V. L. Allen, of Birmingham, Ala., and L. A. Cellen and H. J. Tissier, of Selma, Alabama.

The Whatcom Artificial Granite and Stone Works has been incorporated at Whatcom, Wash., with a capital stock of $20,000.00, to manufacture artificial stone from sand, etc. The incorporators are: Thomas Taylor, James Brown, A. H. Wright and August Wilson.

The Central Concrete Block Co. has been organized at Kittery, Me., to make machinery for the manufacture of cement and concrete building blocks, with a capital stock of $300,000.00. The officers are: Albert E. Knowlton, Maiden, Mass., president; Charles C. Smith, Kittery, Me., treasurer.

The National Building Material Co. has been incorprated at Norfolk, Va., with a capital stock of $50,000.00, to manufacture brick, paving blocks, artificial stone and a full line of clay and cement products. In replying to your inquiry, the company inform us that they have some valuable recently patented machinery for making both clay and concrete (sand and cement) brick and artificial stone products. They are now figuring with machinery men with a view to having this machinery built. Their intention is to establish plants for the manufacture of clay and rock products of this kind all through the country.

Concrete in Egypt.

Concrete building is not only making rapid progress in the United States, but all parts of the world. We have before us an account of a concrete structure built by the Egyptian Government as a museum for storing relics that have been recovered from the ancient Egyptian ruins. The building is constructed of armoured concrete and the work is carried out by the Egyptian Hennebique Concessionare, M. Severin, engineer. The building is located at Cairo and the government is also erecting other buildings of the same material.

A New Fireproofing Material.

Consul General Oliver J. D. Hughes writes the Department from Coburg, in regard to a new fireproofing material called Uralite, which is described as being of asbestos fiber with proper portion of silicate and bicarbonate of soda and a small amount of chalk.

It is supplied in various finishes and colors, according to its ultimate purpose. In a soft form, the sheets are like asbestos board; harder, they resemble finely sawn stone and have a metallic ring. Uralite can be supplied in a plastic form for pipe covering if required. The principal advantage of the material is undoubtedly its fire-resisting property. It is a non-conductor of heat and electricity, is practically waterproof (and may be made entirely so by paint), and is not affected by atmospheric influences, nor by the acids contained in smoke in large towns, which rapidly destroy galvanized iron.

Uralite has the further advantages that it can be cut by the usual carpenters' or woodworking tools; it can be painted, grained, polished and glued together like wood; it can be veneered to form paneling for walls or partitions for ships' cabins or for railway carriages; it does not split when a nail is driven through it; it is not affected when exposed to moisture or great changes of temperature; and it can be given any desired color either in the process of manufacture or afterward. It is the invention of a Russian artillery officer and chemist, named Imschenetzky.

The process of manufacture (patented) is akin to that employed in paper making, and the same class of machinery is adopted at various stages. The process commences in what is known as a "preparation building," where the crude asbestos is first of all "teased" out and freed from sand and other foreign substances. It is carefully graded and separated and passes onto edge runners, where a small portion of whiting is added to prevent grinding rather than the loosening of the fibers which is desired. From the edge runners it is conveyed by elevators to a floor above, where it is fed into a Krupp disintegrator, which further loosens the fibers. It is again separated by air blasts and by sieving, and is then ready for the next stage.

In another building, the asbestos is mixed with an equal weight of whiting, if white uralite is being made; or if gray or red uralite is needed, this is replaced by carbon black, or red oxide. The whiting is first reduced to a cream by beating it up with revolving paddles in a mixer. This is passed through a sieve for the removal of accidental impurities, and thence into a "hollander." The asbestos is next added, the usual charge being 5½ cwts., and then the coloring matter. The whole is worked up into an emulsion by revolving screws and beaters, for a quarter of an hour or so, and there is further separation to remove any sand which may have hitherto escaped detection.

The uralite pulp then passes to a machine designed on much the same lines as that employed in making paper boards. The pulp is delivered over riffle boards onto an endless revolving blanket, and passing through a series of rolls is partially dried and compacted. It then passes onto a revolving drum at the end of the machine, on which some fourteen or fifteen thicknesses are deposited before the required thickness is attained, this point being signalized by a flash from a red incandescent lamp above.

During the process of winding onto the drum, a solution of sodium silicate, with an amount of sodium carbonate insufficient to permit of the immediate deposition of the silica, is passed over the successive fibers of asbestos, and serves as an adhesive.

The large sheets, as they are taken from the drum in their pliable state, are quickly cut to smaller ones, measuring 6 feet 2 inches by 3 feet 1 inch. These sheets are piled up, alternating with sheets of wire gauze or sheet iron, to a height of about 40 inches. The pile is then placed under an hydraulic press and the pressure slowly increased, so that at the end of half an hour it is equivalent to about 200 pounds per square inch. This is maintained for one and one-half hours, and the pile is then left to harden for twenty-four hours, after which the sheets are removed to go to the storing rooms. Here they are placed vertically in racks on trucks, and pass through a series of stoves with graduated temperatures. The stoves are gas fired. They are then steeped in a solution of sodium silicate, washed, left to dry, and again passed through a stove, after which they are steeped in a solution of sodium carbonate, and washed and dried as before. These subsequent operations are repeated as often as required for the final hardening of the sheets, and the entire process occupies several days. The sheets are stacked for some days and again passed through the stove, being then ready for use, though it is said that, like timber, they are the better for a little seasoning. The sheets of uralite thus produced are found to be uniform in thickness, three thirty-seconds of an inch being the standard.

An expert is quoted who gives an extended description of the material, stating that it is the result of protracted research, experiment and tests which prove that the material possesses the quality of withstanding intense heat for a very long time, has uniform nonconductor powers, is able to resist water after prolonged exposure to fire, and is not affected by atmospheric conditions. The material is patented by foreign patentees except for Russia, and it is held by the British Uralite Co., 50 Cannon Street, London, E. S.

Asphalt.

Asphalt Formations.

Nature of California Deposits.

Deposits of bitumen, in California, are found in sedimentary rocks of all ages, and principally in three different ways: 1, in superficial detritus; 2, in veins; 3, in porous or seamed strata. The bitumen may be of any consitency—gaseous, fluid, viscous, or solid. Bitumen often occurs in superficial detritus or alluvium. This character of deposit is usually the overflow of tar springs, into which the detritus from the surrounding country has been washed or blown, and, where mineral tar is sufficiently liquid, it has percolated into the underlying earth. The detritus, when saturated with mineral tar, most always have been repeatedly burned, leaving black, vesicular clinkers, which are frequently refilled, where there has been a flow of tar after the fire.

Cooking utensils of the Indians are found in the vicinity of these tar springs, showing that they were used for the purpose of fuel. After this they were set on fire by shepherds, so that the fleeces of their sheep would not be injured, or lambs suffocated by going into the sticky mass. Where the bituminized detritus has escaped the fires, and exists below the clinkers, it contains about five per cent. of brown and friable bitumen, having a specific gravity less than that of water. It consists of seventy per cent. of asphaltine and thirty per cent. of petrolene.

Thin layers of detritus, impregnated with mineral tar, lying nearly horizontal, are intercalated with thicker layers of detritus, which contains no bitumen. These beds are formed by flows from tar springs and deposition of detritus denuded from the adjoining hills. Before this deposit was worked, mineral tar had flowed from the springs over the surface of the clinkers, until it had reached a thickness of from one to six inches; it has evaporated and oxidized, becoming stiff. It was of different degrees of purity, sometimes absolutely pure; at other times it contains as high as eighty per cent. of detritus. In 1891 and 1892 this concreted tar was being mined and refined. At the present time there are but a few tons, which are scattered over the ground, in small pieces. It has been estimated that, in recent years, these springs afforded about one hundred and sixty barrels annually. There are a large number of other tar springs in California, nearly all of which have burned in the manner described above.

Asphalt Beds a Trap for Animals.

In the shaft sunk at the Hancock deposit, lying Northwest of the city of Los Angeles, in the center of what appeared to be an old tar spring, on the surface were found the bones of domestic animals, horses, cattle, sheep, etc.; at a greater depth the bones of the bear, elk and other wild animals, and resting on the shale beneath the bituminized sand at a depth of about thirty feet, were the bones of the *Elephas Americanus*. During the latter part of the summer season, in California, the natural grasses dry up, but, owing to the slight amount of water which ascends with the bitumen, as it does at the present time, many years ago, during the dry season, there grew, surrounding these asphalt springs, green and succulent herbage. This herbage was the bait of the trap which tempted these herbivorous animals to their death. With everything else dry, these green herbs were an irresistible temptation. In struggling to get to them, the animals become mired in the tar lake and suffocated, their bones gradually sinking to the bottom.

The *Elephas Americanus* seemed to be the first one that met this fate, as his bones rest upon the underlying shale, below the remainder of the fossils. These springs must be very old, as it is many years since the American elephant fed upon the plains adjacent to the spring.

Veins of asphaltum, being rents, seams and fissures filled with asphaltum, occur, usually vertical, or not far from vertical. An innumerable number of small faults, contortions and breaks occur in the formation in which these veins of asphaltum exist. These veins of asphaltum occur in the vicinity of red shales, or shales that have been burned and contracted by chemical heat; the contraction of the shales opened, and open cracks and seams in the adjoining formation permitted the ascent of the asphaltum. These cracks and seams extend to such depths as to reach deposits of petroleum oil.

From observations made at Asphalto, Mount Solomon, La Patera, and other places it would appear that these fissures and rents and faults are filled with bitumen in the following manner: Heavy petroleum oil at various depths below the surface of the earth, in porous or seamed strata, is urged upward, principally by rock pressure. The subsidence of the formation in which the asphalt veins occur, is caused by the contraction of the shales by heat. In consequence of the subsidence, the shales and sandstones are very much broken and contorted. Around the edges of these subsidences these veins of asphaltum are found.

The Physical Character Varies.

The physical characteristics of the asphaltum filling these veins are extremely variable. In consistency, it graduates from a hard rock to a viscous condition. The asphaltum contains, intimately mixed, from one per cent. to seventy per cent. of impurities. The impurities hardly ever exceed seventy-five per cent. The presence of more than seventy-five per cent. of impurities makes the bitumen so stiff that it can not be forced through the cracks and seams. In the vicinity of the injected veins there are beds of shales containing from ten per cent. to fifteen per cent. of bitumen, but existing rock pressure is unable to move them.

The impurity in some of these asphalts is infusorial earth; in others, sand; while in others, finely ground shales and angular fragments of shales and fossile shells, or all of these impurities must be present in the same deposit. Shale predominates as an impurity; in fact, the impurities are derived from the rock which the asphaltum encountered during its ascent. Most of the time the impurities are very fine and light, making the refining of the asphalt, by any known process, difficult.

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The thickness of these veins of asphaltum is variable; sometimes they are twenty feet in thickness, decreasing until they become the thickness of a knife blade, and in exploring for asphalts these small seams are followed, and often lead to thicker parts.

Experiments With Oil and Tar on Roads.

Consul Henry H. Morgan, Lucerne, France, informs the Department that the Continental Press has been having quite a lot to say about some experiments made by Dr. Guglielminetti, of Monte Carlo, for laying dust by means of oiling and tarring the roads, and forwards the following account taken from one of the papers there:

The experiments in oiling or tarring the roads at Champigny were very successful. The apparatus in use were perfected by M. Audouin, engineer in chief of the chemical department of the Compagnie Parisenne du Gaz. Two successive processes of using tar were employed.

(1.) Distribution by means of a special type of sprinkler, fitted with a fan-shaped nozzle, pierced with two rows of orifices.

(2.) Distribution by means of a tank of about 200 quarts capacity, heated by a traveling furnace, and operated in the same manner as an ordinary sprinkling tank.

It is shown that the road, macadamized and well rounded, should be thoroughly washed and brushed on the day before the tarring operation, and to the extent of laying bare the macadam. After all trace of humidity has disappeared, the hot tar should be spread upon the road in a thin layer.

In the trials at Champigny, when the tar commenced to cool, fine sand was scattered over the section treated. Orders were then given that the road should be closed to traffic for a few days, and it is assumed that in a few months the value of the experiments will be demonstrated.

A similar trial, conducted six weeks ago at Geneva, has given excellent results. The delegates of the "Ligue Internationale des Associations Touristes" held at Geneva, reported on August 16 that the tarred surface was not slippery, that it was extremely hard, and that the horses' hoofs left no visible trace.

During the six weeks that have elapsed, no softening of the layer has been observed in spite of the very hot weather. The frequent rain storms have done no damage. The water washed the surface without making it slippery, and it ran off rapidly, not being able to soak into the road.

The cost of the tar, reckoned at 50 francs ($9.65) a ton, came to about a cent for each square yard.

It is evident that a road protected from humidity and inclemency by this impermeable layer will last much longer than if left in its natural state, so that the lubrication process presents economic as well as hygienic advantages.

The "Touring Club de France," the "Automobile Club de France," and the "Association Generale Automobile" are disposed to encourage these experiments.

The Barber Asphalt Co. will erect a $50,000.00 plant at Fort Dodge, Iowa.

Louis Matthews, Bason, Wyo., has discovered a deposit of asphalt on the head waters of the Sheel creek in that State.

The asphalt plant of the Schnectady Contracting Co., Schnectady, N. Y., was recently destroyed by fire.

The Palestine Mining and Petroleum Co., at Palestine, Tex., will proceed with the development of its sand asphalt property near that place.

The American Standard Asphalt Co. is arranging to extend the development of its asphalt property at Russellville, Ky.

The Tar Springs Asphalt Co. has been incorporated at Loca, Indian Territory, with a capital stock of $400,000.00, to develop asphalt lands and erect a refinery. R. V. LeGrand is in charge.

The Black Rock Mining Co. has been organized at Augusta, Me., to mine and sell asphalt rock. The officers of the company are: L. Dutton, of Augusta, president; F. Lee, of Augusta, treasurer.

The American Asphaltum & Rubber Co., of Chicago, Ill., has been incorporated with a capital stock of $250,000.00. The incorporators are: F. A. Ratledge, Edwin Crawford and P. A. Hoge.

The Ontario Asphalt Co., which was recently formed by a number of Windsor, Ont., and Detroit, Mich., capitalists, will soon select a site for locating a plant, which it is thought will be in the neighborhood of Walkersville, Ont., Canada.

Geo. B. Gonser, Wabash, Ind., has located an asphalt deposit in Wyoming in which he has interested Dr. M. A. Jordan and B. F. Keesling, Logansport, Ind., and others in the organization of a company with $1,000,000.00, capital to develop it.

The Merchants Oil and Asphalt Co. has been organized at Kittery, Me., with a capital stock of $200,000.00, to develop oil wells. The officers of the company are: Hiram Thompson, of Kittery, president; Ernest L. Chaney, of Kittery, treasurer.

The last move up to the present in regard to winding up the plans of the National Asphalt Co., and the Asphalt Co. of America seems to be taking the form of a degree for the sale of bonds to settle up the affairs of the old companies and bring a new company into existence.

R. H. Kello has been on a tour of inspection of the land of the St. Louis (Mo.) Gilsonite Asphaltum Co. The lands are in the Indian Territory and Mr. Kello reports that he was agreeably surprised at the extent and magnitude of the deposits. C. O. Baxter is manager of the company.

J. T. Ray, of Salt Lake City, Utah, has organized a company to develop asphalt deposits near Dewey Springs, Colo. It is said that a plant will be erected for extracting asphaltum from the sand and lubricant from the asphaltum. The beds to be worked contain veins of sand asphaltum which are said to run 30 per cent. asphaltum and 17 per cent lubricating oil.

The fuel problem is indirectly troubling some of the asphalt people. The Lake Erie Asphalt Co., Toledo, Ohio, has recently been compelled to employ five special watchmen to keep the public from carrying off asphalt blocks for fuel purposes along stretches of street where the blocks have been distributed for work to be done next spring. There is said to be 18 per cent. of combustible material mixed in the blocks, and when mixed with coal it helps out the fire wonderfully.

Stone.

Maryland's Geological Exhibit.

We are illustrating this month a part of the exhibit of building stones made by the Maryland Geological Survey, at the Charleston Exposition, for which it received a gold medal. The part shown consisted of a pyramid about ten feet square at the base, rising three tiers to the top plane, which is capped by a solid pyramid of "Potomac marble," a curious conglomerate, making a natural, highly colored mosaic. The sides of the pyramid carry 56 cubes in three tiers, representing granites, sandstones, marbles and limestones, serpentines, gabbros and diabases. Each cube is eight inches square, and each side of the cube represents the stone cut in a different style On the front is a polished surface surrounded by a tooled border, while on the top the rough stone is left with a similar border The sides show pointed and hammer trimming.

Among the granites are specimens of the well-known Port Deposit granite, from the McClenahan Granite Co.; the Woodstock granite, from the Guilford and Waltersville Co.; the Guilford monumental granite, which closely resembles the Barre granite, from the Maryland granite Co., and the Ellicott granite, representing one of the oldest granite quarries in this country, opened about the first of the last century to furnish stone for the Cathedral in Baltimore.

Among the sandstones are the Red Seneca, from the Seneca Sandstone Co., and the gray and red sandstones from other parts of Maryland. Among the marbles and limestones are cubes of the white marble quarried at Cockeysville, from the Beaver Dam Marble Co., and the "Potomac marble," from the Washington Junction Stone Co. The quarries of the latter company were opened to furnish columns for the old House of Representatives (now the Supreme Court) in the Capitol at Washington, but they have never been worked to any extent, and this unique rock is at present almost unknown. The serpentines contain cubes from the quarries at Broad Creek and Cardiff.

Beneath the tiers of cubes are eighteen-inch risers of Port Deposit, Woodstock and Guilford granite, and Baltimore gneisses, the latter furnished by the Schwind Quarry Co.

The most noticeable portion of this exhibit is the columns at the four corners of the pyramid. These rise on two-foot pedestals to a height of ten feet, and show the high polish to which the various stones may be brought. The column shown in the center of the cut is of granite from Guilford; that on the left, a deep green serpentine from Cardiff (near Delta, Pa.); that on the right a pure white marble from Cockeysville; and that in the rear a rich red Seneca sandstone.

Besides this central figure the exhibit of the Maryland Geological Survey included numerous smaller blocks showing the variegated marbles, some of which closely resemble certain of the Tennessee and the deep red marbles from Europe.

This attractive exhibit was prepared by Professor Wm. Bullock Clark, the State Geologist of Maryland, and his associate, Dr. Edward B. Mathews, who has published a complete and beautifully illustrated report on the Building Stones of the State of Maryland.

The North American Marble Co. has been incorporated at Wilmington, Del., by Baltimore, Mass., parties, with a capital stock of $125,000.00. The company will quarry and manufacture marble, slate and other stone for structural and monumental purposes.

The Warren (Ohio) Marble and Granite Co. elected the following directors at a recent stockholders meeting: Wm. Wallace, W. R. Stiles, O. D. Morgan, R. T. Izant, John W. Masters, S. A. Corbin, W. F. Corbin. A six per cent. dividend was declared and the affairs of the business found in good shape.

The firm of Baldwin & Priseler, Ottawa, Ill., has been incorporated with a capital stock of $20,000.00, under the firm name of The Baldwin & Priseler Co. There are no changes contemplated in the business, except, instead of a partnership business, it is now an incorporated company. The president of the company is M. W. Baldwin, and the secretary-treasurer is A. B. Priseler.

The Massillon Stone and Fire Brick Co. has been incorporated in Pennsylvania with a capital stock of, $8,000.0. It has qualified to do business in Ohio. The officers of the company are: Robert P. Duff, Pittsburg, president; William G. Hipp, Massillon, Ohio, secretary; Edward A. Kitzmiller, Pittsburg, treasurer. Mr. Hipp is legal agent in Ohio.

ANIEXHIBIT OF MARYLANDiSTONE COLLECTED BY THE MARYLAND GEOLOGICAL SURVEY.

The Building Stone of Vermont.

State Geologist, H. Perkins, Ph. D., has issued a report on the mineral industries and geology of certain areas of Vermont, covering the years 1901-1902.

On the subject of building and ornamental stone this report says, as is well known, the great mineral industries of Vermont are found in the quarries. Although one of the smallest of the States, Vermont is second only to Pennsylvania in the value of rock products sold. According to the latest returns, the total value of the building and ornamental stone sold in Vermont during 1901 amounted to five and a half millions of dollars, and the amount of the present year will probably be more.

To meet the growing demand new companies have been formed of late, and the future will undoubtedly be greater than the past. At present not less than $8,000,000.00 in capital is invested in the marble business in Vermont. Over 3,000 men are in the employ of the companies, and the sales for 1901 were $2,753,583.00, and as several large companies have not yet begun to put marble on the market, but will do so soon, the sales for 1902 will probably be not less than $3,000,000.00.

Since the account of the marble industry given in the last report was published, there has been a marked increase in the production and sale of marble, and several new companies have been formed, largely by the consolidation of those already existing.

It is unnecessary to say much concerning a company so long known and so highly esteemed as the Vermont Marble Co. This company, which is probably the largest marble concern in the world, has increased its business and acquired new property.

Early in 1901 a new and strong company with a capital of $1,000,000.00, known as the Rutland-Florence Marble Co., was formed.

This new company bought the quarries and property of the True Blue, Beldens Falls and several other companies. According to reports this purchase includes 500 acres of Whipple Hollow property at Florence, Pittsford and other places, the total holdings making something over 1,200 acres of marble land which is now held by the Rutland-Florence Marble Co.

Other marble companies are also increasing their facilities for supplying the demands of the trade. The Brandon Italian Co., with quarries at Brandon, have put up and are operating large mills at Middlebury, where they have the water power of Otter Creek. At Dorset the Norcross & West Co. have bought up and put into extensive operation one of the formerly worked but long idle quarries.

The slate industry is given only a small space in this report because it was fully considered in a former one, to which those interested are cited for full descriptions. From the report given we quote the following: "For a few years the sales, and consequently the output, of slate in Vermont diminished rather than increased, but for the last few years this condition has been reversed, and this year nearly all the companies reporting give very encouraging accounts of active business during the year, and excellent prospects for the immediate future. The sales of slate for 1901 were large, amounting to $1,162,191.00. Besides the vigorous working of most of the quarries in the great slate belt of Rutland county, there has been renewed activity in the Northfield region. There is here a fine series of deposits of black slate which apparently only needs sufficient capital and energy to become very productive. At present there are but two companies engaged in the business. These are the Dole-Brill and the Union Slate Companies."

On the subject of granite, Mr. Perkins says: "While almost since it became a State, Vermont has been famous for its marble, it has been known as a granite producing State only during the last few years, and now it is almost as widely and favorably known through its granite as through its marble, and I do not think that it is too much to say that in quality, if not in quantity, Vermont is excelled by no other State or country in the world. Two other granite producing regions, Maine and Massachusetts, furnish a greater quantity, all grades being cosidered, but of the finest grades of granite, such as are used in monuments, Vermont last year sold more than twice as much as any other State. The greater quantity sold elsewhere goes into

paving stone, foundations, etc., for which uses Vermont sells comparatively little, while most of our granite goes into finer work. Vermont also sells more granite in the rough to be worked elsewhere than does any other State. When we consider the fact that our granite deposits are scarcely touched as yet, only a very small part of them having been quarried at all, and that the supply is practically unlimited and therefore inexhaustible, and that the demand for Vermont granite is rapidly increasing, we easily understand that a great future awaits this industry. The growth of the business in Barre shows what may happen elsewhere, and in many localities, for granite is widely distributed over the State, from Derby to Dummerston, and while much of it is unsalable, much of it is of the very best quality. No red granite is found in Vermont, but we have all shades of gray and all grades of hardness and texture. The present capital invested and quantity and value of stone produced is very large, but we may confidently expect that it will soon be much larger.

"The granite industry is much less concentrated in this State than either the marble or slate, and I have found it difficult to get at exact statements respecting it. It appears certain that not less than $1,000,000.00 is invested in the business. Not less than 3,000 men are employed in quarries and cutting works, and the output in 1901 as given by the United States Geological Survey Report, was $124,828.00. Nearly all the firms report increasing business, some of them that during the past year, 1902, the sales will be double those of the previous year."

His report is supplemented by a special study of the Barre granite region, written by Mr. C. I. Finlay of the Columbia University, and by other reports covering other parts of the granite field.

A Wisconsin Stone Quarry.

There are many interesting stone quarries in Wisconsin and we are pleased at being able to present this month a picture of a fine Wisconsin quarry. The quarry is the property of the Green Stone and Quarry Co., Sawyer, Wis., and is located in the city of Sturgeon Bay, Wis., comprising thirty-seven acres in one corner of the latest subdivision of that city. The picture gives a good general view of the quarrying, but of course does not clearly show the effects of layers, etc. This view is taken from what is called pit No. 1, and the equipment and stone is such that all kinds and sizes of stone, ranging from 4 inches to 40 inches in thickness, can be quarried and handled. In speaking of the stone, they say that they have layers of Trenton and crystoline limestone ranging from 4 to 40 inches thick, and the floor on which the track is laying is a 30-inch blue rhyolite. The face of the bluff exposed to view in the picture is 23 feet high and 172 feet long. The drilling is done by steam, the main line of steam pipe being suspended from a cable above the tracks and then running in line with the bluff. They say they get all the steam they require for three 2¾-in. Ingersoll drills from a 5x14 marine boiler, and the same boiler outfit supplies the hoisting engines. In the process of getting out stone they use blasting powder and then break with hammers to the sizes and shapes desired.

In transporting the stone they have cars of their own special design which hold a half cord each and dump to one side. The cars can be transferred to any track desired by means of turn tables. In operation they generally use two shifts, using six cars and three men to each car. The first shift, after being loaded, proceeds to the turn table, where it is transferred to the up track, when reaching bottom of incline one man fastens the car to an endless cable. After reaching the top of incline, the car runs down grade to boat, running on the bridge right over boat and is there dumped. After the first shift has dumped, they return by way of the return track, and while shift 1 is on the return, shift 2 is on the up track. With this method they have made seven and a half full trips per hour, consisting of 24 cords in one hour by 29 men, which has been called a record. This, of course, was only done in one instance upon a wager, the average being five full trips per hour, or, in other words, running 6 cars—30 cars an hour.

In the last three years they have quarried 11,300 cords, figuring 128 feet a cord. At present they are opening another pit located at the rear of the dwelling, to have a 500-foot face, where there is less ground, consequently the layers are thinner as shown in photograph.

E. A. Fengler, Dubuque, Iowa, will erect a stone crushing plant at Eagle Point, Iowa.

W. E. Patch has been appointed superintendent at the stone crusher plant at Akron, Ohio.

The Oxford Marble and Granite Co., Oxford, Mass., is planning to increase its facilities.

The Ohio Ballast Co., Cleveland, Ohio, has been incorporated with a capital stock of $5,000.00.

The store of the Mount Waldo Granite Co., at Frankfort, Me., was destroyed by fire January 16.

W. B. Adair has become associated with his father in the marble business at Glen Falls, N. Y.

George Dugan, of Bedford, Ind., is putting in a new electric traveler to handle cut stone in his yard.

The Mussey Stone Co., Cleveland, Ohio, has reduced its capital stock from $500,000.00, to $100,000.00.

The Bodwell (Me.) Granite Co. has recently been adding machinery to its works at Vinalhaven.

The National Stone Co., at Bloomington, Ind., has added a New Albany stone planer to his stone plant.

C. Meyer has started a stone yard on Elm street, Green Bay, Wis., and also has a quarry at Glenmore.

The Ohio Co-operative Stone Co., East Palestine, Ohio, has been incorporated with a capital stock of $10,000.00.

J. Persbacker, Callicoon, N. Y., states that the blue stone trade of New York has been very active this past year.

The Abiline Granite and Finishing Co. has been incorporated at Huron, S. D., with a capital stock of $200,000.00. The incorporators are: John H. Schnitzel, Ernest May and Burdette Moody.

The South Side Stone Co., Chicago, Ill., has been incorporated with a capital stock of $10,000.00, to deal in stone. The incorporators are: A. F. Colgren, R. C. Gustafson and Aug. Carlson.

The New Albany Manufacturing Co. recently shipped a stone planer to Mr. S. R. Riley, a big contractor of Philadelphia, who put it up at Pittsburg where he is erecting a large cathedral.

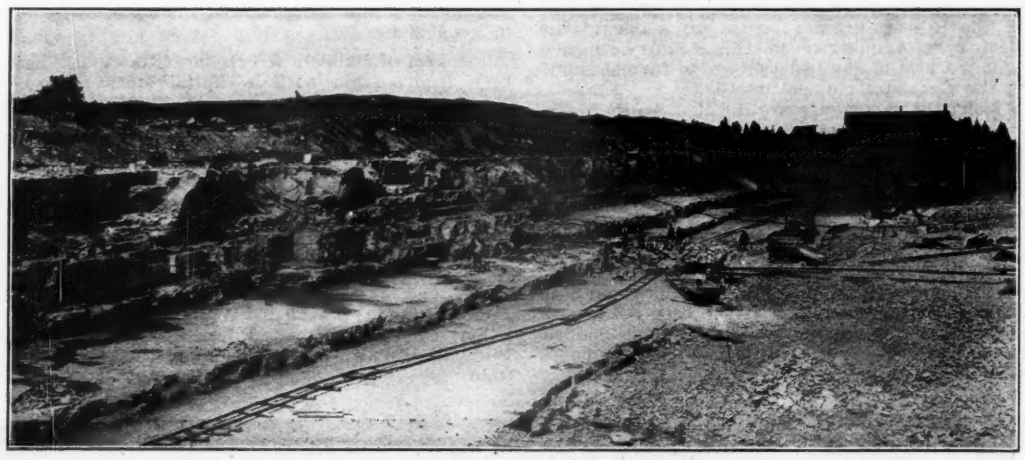
The Vermont Marble Co. has been rebuilding and enlarging their marble shop at Proctor, Vt. They have added two electric traveling cranes and a number of rubbing beds to their machinery.

The Middle River Stone Co. has been incorporated at Superior, Wis., with a capital stock of $25,000.00. The incorporators are: Alexander McKenzie, Henry H. Stewart and Sybella J. Currie.

John Craig, who has been for eleven years connected with the New England Granite Co., at Concord, N. H., has accepted the position as manager of the Maryland Granite Co., at Baltimore, Md.

The Thiells Stone Co. has been incorporated at Thiells, N. Y., with a capital stock of $1,500.00. The incorporators are: I. J. Herbert, of Thiells; J. M. Hasbrouck and Emma A. Nevins, of Garnerville.

George Parker has purchased the stone business of Wm. Bollenbacher, at Bellevue, Ohio, and succeeds to the agency in that place of the Cleveland Stone Co. McDermott Stone Co. and the Clarksfield Stone Co.



QUARRY OF THE GREEN STONE AND QUARRYING CO.

Tarbox & McCall, of Findlay, Ohio, have arranged to deliver 1,000 yards of crushed stone to parties at Anderson, Ind.

It is reported that the American Axe and Tool Co. has bought the quarry property of the Independent Stone Co., at North Amherst, Ohio.

L. S. Atkinson has completed the purchase of what are known as the Barre Granite Quarries, which are situated ten miles west of Buena Vista, Colo.

The Bedford-Bowling Green Stone Co., Bowling Green, Ky., is installing a new traveler made by the New Albany Manufacturing Co., New Albany, Ind.

It is reported that J. J. Griffith, secretary-treasurer of the Mott Granite Co., Pontiac, Ill., has embezzled $18,000.00 of the company's funds and disappeared.

Thomas McLaughlin, a well known contractor of Ottawa, Ontario, Can., has secured a contract for the stone foundation work of a big bridge across the Ottawa river.

The Waushard Granite Co. has been organized at Spring Lake, Wis., with a capital stock of $10,000.00. The incorporators are: James Shaw, Geo. B. Heaney and Carrie Heaney.

Alex Riggs has equipped his marble yard at Sixth and Harrison Avenues, Charleston, Ill., with a traveling crane, air compressor, pneumatic tools and a 10 h. p. gasoline engine.

The Coos Bay Stone and Marble Co. has been incorporated at Marshfield, Oregon, with a capital stock of $2,000.00. The incorporators are: C. W. Paterson, A. R. Tenbrook and J. F. Hall.

The Medina Quarry Co. has made some changes in its officers at Albion, N. Y. Edward Foucher becomes general superintendent, L. A. DeGraff will go on the road as salesman, and other changes have been made.

The Greenville Granite Co. has been incorporated at Augusta, Me., with a capital stock of $4,000,000.00. The officers of the company are: L. A. Burleigh, president; J. Williamson, treasurer, both of Augusta.

The Vermont Marble Co., Rutland, Vt., has taken out permits to do business in the State of Ohio. The Ohio headquarters will be at Cleveland, where the company will be represented by C. J. Leavenworth.

It is reported that the Booth Bros. and Hurricane Granite Co. have about 500 men at work in sections around Rockland, Me., and about 200 men getting out stone at Hurricane Island for the New York custom house.

The New York Mosaic Marble Co. has been incorporated at New York City with a capital stock of $25,000.00. The incorporators are: Theodore Dieterlen, Joseph Bayon and Alexander Pelli, of New York City.

The Battenkill Marble Co. has been incorporated at Portland, Me., with a capital stock of $300,000.00, to deal in marble. The officers are: J. B. Warren, Dorset, Vt., president; F. W. Smith, Brookline, Mass., treasurer.

The Summit Park Stone Co. has been incorporated at Buffalo, N. Y., to quarry and crush stone. The capital stock is $15,000.00, and the incorporators are: James Savage, Edmund P. Fish, George H. Kilman, of Buffalo.

The Blair Stone Co. has been incorporated at Pittsburgh, Pa., with a capital stock of $1,000.00.

The Woodbury Granite Co., Bethel, Vt., has closed a contract to furnish about $100,000.00 worth of granite for two residences in New York City.

The Merchants Stone Co., Joliet, Ill., has increased its capital stock from $2,500.00 to $20,000.00.

The American Hydraulic Stone Co. has been incorporated at Denver, Colo., with a capital stock of $100,000.00. The incorporators are: J. A. Ferguson, Karrie Ferguson and Wm. H. Ferguson.

The Banner Granite Co. has been incorporated at Augusta, Me., with a capital stock of $250,000.00. The officers of the company are: L. A. Burleigh, Augusta, Me., president; J. Berry, Augusta, treasurer.

The International Onyx and Marble Co. has been incorporated to operate in Fremont, Col. The incorporators are: John F. Campion, A. A. Blow, Henry E. Wood, Wallace A. Stephens and Stuart D. Walling.

The firm of C. D. Woodworth & Co. has been incorporated at Omaha, Neb., with a capital stock of $15,000.00, to deal in stone and sand. The incorporators are: C. D. Woodworth, W. J. Mumaugh and M. W. Cavanagh.

A company is being organized at Freeport, Me., to reopen the granite quarries there. The officers of the company will be: E. von der Osten, president; F. A. Hall, of Boston, treasurer; Fred Morton, of Cambridge, secretary.

The Litchfield (Ill.) Marble and Granite Co. held its annual stockholder's meeting recently and elected the following directors for the ensuing year: T. C. Kirkland, Wm. Barefoot, Wm. Wiegreffe, Sr., S. M. Gibbs and A. F. McEwin.

The Hunt Bros. Co., 48 Orange Street, Newark, N. J., has been incorporated to deal in marble, stone, tile, etc., with a capital stock of $25,000.00. The incorporators are: Walter Korten, John H. O'Rourke and Ernest F. Kerr, Newark, N. J.

At the annual meeting of the Chazy Granite Co., at West Chazy, N. Y., the following officers were elected for the ensuing year:: W. M. Carnes, president; Leroy Stafford, vice president, and L. L. Honsinger, secretary-treasurer.

Knapp Bros., of Toledo, Ohio, have been succeeded by the Knapp Bros. Co., which was incorporated with a capital stock of $50,000.00, to manufacture stone. The incorporators are: Daniel H. James, Julius W. Knapp, Otto W. Buss and M. H. Knapp.

The Webb Granite and Construction Co., of Worcester, Mass., has secured a contract to furnish stone for the building at New Haven, Conn., donated by the Vanderbilts to Yale University. The amount of the contract is something like $100,000.00.

The Iowa-Wyoming Marble and Mining Co. has been incorporated by Council Bluff, Iowa, men with a capital stock of $50,000.00. The incorporators are : G. H. Richmond, D. W. Bushnell, E. A. Troutman, S. B. Wadsworth, W. W. Hanthorn, S. L. Etnyre and Charles A. Beno.

The Pacific Stone Co. has been incorporated at Sacramento, Cal., with a capital stock of $120,000.00, to deal in stone. The incorporators are: W. D. Gester, Kate D. Gester, Dolph Barnicott, Jenney W. Barnicott, Sallie Howell Quinby, Uriah Cummings and Homer S. Cummings.

The Royal Surpentine Marble and Mining Co. has been incorporated at Spokane, Wash., with a capital stock of $250,000.00. The officers of the company are: W. F. Kyle, of Spokane, president; C. J. Spalding, of Colville, vice president; F. L. Reinoehl, of Chewelad, treasurer; and H. J. Bud, of Knoxville, Iowa, secretary.

It is reported that Thomas Collpitts has asked that a receiver be appointed for the firm of Neukom & Collpitts, which was engaged in the stone business from March 1901 to December 1902. The firm seems to have done a very good business but was dissolved last December and the present action is simply to wind up its affairs.

The Boise Granite Co., Ltd., has been incorporated at Boise City, Idaho, to produce and deal in granite and marble, onyx and sandstone. The capital stock is $75,000.00, and the incorporators are as follows: H. C. Hoffman, J. W. Hoffman, M. M. Webb, Elof Anderson, William M. Davis, all of Boise, and A. Dawkins, of Salt Lake City.

QUARRIES.

V. P. Hiskey is organizing a company to operate a quarry near Salt Lake City, Utah.

E. R. Fletcher has opened a quarry formerly owned by the Fletcher Granite Co., Hardwick, Vt.

The St. Clair Construction Co. has resumed work at its quarries at Kankakee, Ill.

The City Council of Portland, Oregon, is considering a proposition to buy a rock quarry.

The Marquis Limestone and Clay Co. has purchased limestone quarry property near New Castle, Pa.

The Quarries Operating Co.,Chicago, Ill., has increased its capital stock from $20,000.00 to $50,000.00.

The Columbian Marble Quarrying Co., Rutland, Vt., gave a complimentary entertainment to its 275 employes during the holidays.

Cyr Bros., Pittsfield, Me., will operate their granite quarries a few miles above Hartland, Me., all winter.

The Rich Valley Quarry Co. has been incorporated at Pulaski, Va., with a capital stock of $10,000.00, to buy, sell and operate quarries.

James Johnson, of New Richmond, Wis., has discovered what is said to be valuable red granite North of that place and will likely develope same.

The quarries of the Maryland Granite Co., at Guilford, Md., suspended operations temporarily the first of the year on account of the scarcity of coal.

It is reported that thieves broke into the tool house at the quarry of A. M. Seagrove, Uxbridge, R. I., and carried off everything they could lay their hands on.

The Ohio Quarries Co. has been incorporated at Chicago, Ill., with a capital stock of $100,000.00. The incorporators are: Louis E. Hart, Edward Ritsher and Harry W. Paddock.

One of the Pioneer quarries of the country is the Cobleskill (N. Y.) Quarry which was opened thirty-two years ago. To-day it is said to employ over 200 men and has every modern appliance for getting out stone.

The Washington Monumental and Cut Stone Co., Spokane, Wash., has acquired an interest in the Spokane Marble Co.'s quarries, and as soon as the weather will permit a channeler and other machinery will be installed.

It is reported that F. P. Cooper, formerly of Seigel, Cooper & Co., has purchased the marble quarry of Young Bros., at Tuckahoe, N. Y., which has been idle for three years and will operate it on an extensive scale.

The Hanna Granite Co. has been organized at Augusta, Me., with a capital stock of $250,000.00 to quarry and dress stone. The officers of the company are: Lewis A. Burleigh, of Augusta, president; J. Berry, of Augusta, treasurer.

G. H. Worthington, president of the Cleveland (Ohio) Stone Co., accompanied by the superintendent of his quarries, W. C. Nichols, has been investigating sandstone in South Dakota with a view to opening up quarries there next spring.

The Central Ice Co. has been incorporated at Buffalo, N. Y., with a capital stock of $30,000.00, and in addition to the ice business the company is authorized to quarry stone. The incorporators are: Christopher J. Handel, August Becker and Henry E. Boller.

The granite works around Rockland, Me., especially among the quarries in the vicinity of Stonington are slowing down for the winter. The Hollowell Granite Co. has reduced its force from eleven gangs to three, and the Tayntor Granite Company is cutting down to two gangs.

The Orvillo Marble, Mining & Quarry Co., Rutland, Vt., has been incorporated with a capital stock of $100,000.00. The incorporators are: J. E. Burke, of West Rutland; Jewett P. Cain, of Rutland; P. Willis, of Florence; W. B. Buttes, of Rutland, and Thomas G. Willis, of Florence.

It is reported that the Kentucky Stone Manufacturing Co., of Rock Falls, Ind., has been placed in the hands of receivers, Henry L. Wilson and A. M. Patterson being appointed as receivers. LeRoy Galt, of Sterling, Ill., who is president of the company, will continue to manage the business under the directions of the receivers. The company also has a plant at Council Bluffs, Iowa.

Slate.

Josebh H. Miles is to start a new slate quarry at Delta, Md., under the management of W. J. Jones.

The Franklin Slate Co., Slatington, Pa., has been incorporated with a capital stock of $24,000.00.

Reports from Stroudsburg, Pa., state that the Snowden Slate Co., which has a quarry at Slateford, is preparing to erect a large mill on its property.

The Carbon Slate Co., Slatington, Pa., has been incorporated with a capital stock of $45,000.00. The incorporators are: Ellis Owens, Robert G. Pierce and Joseph Richards.

Reports from Poultney, Vt., say that all the slate quarries in that vicinity are exceedingly busy, and are working overtime in their efforts to keep up with orders. A number of concerns are preparing to increase their facilities.

The Shenandoah Slate Co. has been organized at Berkley, W. Va. The officers are: John Lovelette, president; John L. Edwards, vice president, and F. M. Yerick, secretary. R. Parker Crenshaw is engineer in charge of the work. Offices at Kellog Building, Washington, D. C.

The Albion-Bangor Slate Co. has been incorporated with principal offices with the Corporation Trust Co., 15 Exchange Place, Jersey City, N. J., with a capital stock of $150,000.00, to manufacture slate. The incorporators are: H. S. Gould, O. S. Lee, Jr., and J. R. McCarren.

At a recent meeting of the Dole-Brill Black Slate Co., Northfield, Vt., a committee was appointed to consider the matter of joining forces with New York parties under the firm name of the Vermont Black Slate Co., to put dimension and milling stock slate on the market. Directors were elected for the ensuing year as follows.: Charles Dole, C. C. Brill, W. W. Holien, Frank Plumley and C. W. Scarff.

The wholesale and retail slate and tin roofing business of David Schmid, of Zanesville, Ohio, has been bought by Henry Rohrman, of Zanesville, and Stephen Mills, Jr., of Caldwell, Ohio. Both parties have been connected with the business in the employ of Mr. Schmid for a number of years. Mr. Schmid will devote his entire time in the future to the art pottery business, being already the principal spirit of the pottery establishment.

Adding New Slate Machinery.

The Western Slate Co., 1107 Walnut Street, St. Louis, Mo.—We have had such a rush of business that it has forced us to add 20-horse power to our capacity and a number of new machines to meet the growing demand for our goods. We are still adding some machinery to our plant and trust you are doing the same.

Nelson Armstrong, of Verona, N. Y., has contracted to furnish the public works of Oneida, N. Y., stone for crushing.

The Allegheny Quarry Co., with offices at 419 Market street, Camden, N. J., has been incorporated with a capital stock of $125,000.00, to quarry stone. The incorporators are: E. Einbach, H. R. Jones and S. Casparis. It is said that this company will operate the quarry formerly operated by Mr. Neeb, at Lancaster, Ohio.

The organization of the American Black Marble Co. has been completed by Galesburg, Ill., capitalists, and it is expected they will take steps right away to develop marble deposits at Dalton, Ga. The company is incorporated with a capital stock of $200,000.00, with the following officers: Ames A. Barlow, Galesburg, president; M. A. Wilson, Kewanee, vice president; R. E. Mennison, Kewanee, treasurer; George Craig, Galesburg, general manager.

Monuments.

Joseph King has opened up a granite shop at Vermillion, N. Y.

James Fairley has purchased the Oatman marble shop at Salem, N. Y.

Columbus, Ohio, will erect a memorial to McKinley costing $50,000.00.

J. G. McConnell has bought out the marble business of Charles S. Chissom, Prattsburg, N. Y.

A. H. Griffith, proprietor of the Centreville (Mich.) Monumental Works, is distributing some neat calendars.

The citizens of Carlinville, Ill., have started a movement to erect a monument to the memory of Gen. John M. Palmer.

John B. Schrichte, Rushville, Ind., has added pneumatic machinery to cut stone,including tools, air compressor and gas engine.

The citizens of Stockton, Cal., are raising a fund to erect a monument at that place to a local fireman who lost his life while on duty.

F. J. Kleiser, Seventh and Willow streets, Lebanon, Pa., is preparing to enlarge his marble cutting establishment, increasing its output.

Mr. A. A. Clark has become a partner with his brother, C. N. Clark, in the monument business of the firm of C. N. Clark & Co., Urbana, Ill.

F. M. Smith, Poseyville, Ind., secured a contract recently for a $1,000.00 monument to be erected over the grave of the late Joseph Hale.

C. A. Beardsley, Columbus, Neb., says: "I am somewhat under the weather but I look forward to an active business and expect to be in the fray."

Ballard & Son, Sioux Falls, S. D., have recently completed for the Norwegian Lutheran church at that place an unusually beautiful baptismal font.

The Bellville (Ill.) Board of Public Improvements has taken steps to improve the public square by erecting a monument to their soldier dead.

The Archer Marble Works, Steubenville, Ohio, are to be rebuilt this summer. A new and modern building will be erected to replace the present structure.

The Empire Monument Co., Norwich, N. Y., has among other orders a contract for a mausoleum of classic design to be erected in the Mount Hope Cemetery, Carlinsville, N. Y.

The Common Council of Providence, R. I., has passed a resolution to appropriate $5,000.00 to erect a monument to the late Richard Denning, to be placed in Roger Williams Park.

C. W. Doran, who was for twenty years or more with the Homrich Marble Works, at Galena, Ill., is now with Doran Bros. and O'Conner, who operate monument works at Dubuque, Ia.

One of the Western monument men who seems to be enjoying prosperity in the monument business is G. W. Dawson, Guthrie, Oklahoma, who located at 107 E. Oklahoma Avenue in 1901.

Daniel Canning, Newberryport, Mass., has been enlarging his granite works and equipping it with modern machinery. He has a 12 h. p. gasoline engine, pneumatic tools and also polishing machinery.

The Central Illinois Monumental Co. has been incorporated at Litchfield, Ill., to do monumental and general stone work, with a capital stock of $2,500.00. The incorporators are: John H. Taylor and others.

McMullen Bros., Schenectady, N. Y., have among other orders for monumental work, a monument to be erected to the memory of the heroes of 1748. or more particularly, what is known as the Benkendall massacre.

The Iowa State Monument Committee will hold a meeting at Cedar Falls, Iowa, February 15, to receive bids for three large monuments. S. B. Humbert, of Cedar Falls, can probably give information in regard to specifications.

Smith Bros., of Norwalk, Ohio, have been getting in several car loads of fresh granite for monumental work, and have a number of orders ahead. In fact, it is said that they have more orders aheah now than ever before at any one time.

A local newspaper at Lacon, Ill., is proud of the Mellow Monument Works at that place. It is said that they have not only enjoyed a prosperous business in the past, but have already booked a lot of orders for the new year.

Geo. Dodds & Son, Xenia, Ohio, say that their business the past year has been considerably better than it was in 1901. In addition to monumental work, they put up fancy stone verandas of Bedford stone.

Lloyd Bros., Toledo, Ohio, have secured a contract to erect a $250,000.00 monument at Lansing, Mich., which the State of Michigan is erecting to the memory of its soldiers and sailors. The monument will have a 50-ft. base and 200 feet high.

Alex. Briggs has been adding new machinery to the equipment of his monument shop and marble yard at Charleston, Ill. The machinery consists of 10 h. p. gasoline engine, traveling crane, granite polisher, air compressor and pneumatic tools.

Mr. Carl Kranz has moved from Marshalltown, Iowa, to Davenport, Iowa, and opened offices in the Wiese Building, 325 Q. Second Street. Mr. Kranz is sales agent for the New England Granite Co., which has quarries at Barre, Vt., and Quincy, Mass.

The Iowa and Nebraska Granite and Marble Co. has been incorporated at Omaha, Neb., with a capital stock of $10,000.00, to conduct a general monument and tombstone business. The incorporators are: Joseph E. Blenkiron, J. G. Cannon, J. C. Copple, Jack Tranmer and C. H. Chapman.

The Fort Lee Revolutionary Monument Association has been organized at Ft. Lee, N. Y., to raise $5,000.00 to erect a monument to mark the site of General Lee's camp. The president of the association is J. Fletcher Burdette, who is a representative of one of Fort Lee's oldest families.

It is said that the Simpson-Pernie Granite Co., San Diego, Cal., has one of the most complete and up-to-date cutting and polishing plants on the West Coast. According to the report, this is the first monument concern on the West Coast to use pneumatic tools, of which they have a complete equipment.

The Chas. Reeb Granite Co. is the firm name under which Chas. Reeb and Fred Scott, of Dwight, Ill., will conduct a granite and monument business at Pontiac, Ill. Mr. Reeb was formerly a member of the firm of Reeb Bros., at Dwight, and Mr. Scott was also in the employ of the firm in the capacity of salesman.

A Nebraska retailer of granite and marble says: "In this county the retail men don't stand together well enough to make the investment a paying one. They seem to have but one aim in view. That is, to misrepresent the other fellow's product. It is time a good local organization was doing business in the State of Nebraska and getting prices well in order."

There is a story comes from Washington about a marble slab that bends of its own weight as if it were fluid like sealing wax. The slab is in the Rock Creek cemetery and the inscription on it indicates that it was placed in position about 1850. The slab is seventy-two inches long and about thirty-five inches wide and two inches thick. It is supported on the corners by four posts, and was evidently straight when it was first put in position, but it has now sagged down something over three inches in the middle. Scientists who have been studying this remarkable slab, so the story goes, think that the viscousity of marble will prove to be greater than that of any other known fluid.

Do Not Operate Quarries.

The Brownwood Marble Works, Brownwood, Texas—We are monumental dealers and do not operate in quarries. There have been no new quarries opened here this year.

Picture Monuments.

There is a practice that seems to hold in Denmark of carving the features of the dead on the tombstones, and it is thought by some that this practice may reach this country in the near future; as will be seen from the following Philadelphia report:

"Local marble dealers are taking a keen interest in an enterprise, which had its origin in Denmark, for reproducing the pictures of dead persons on their tombstones. They say that it is very probable that the movement will spread to America in a short time.

"The picture-on-the-tombstone craze started among the Danes as a result of the use of artificial marble. A Danish master builder succeeded in producing a stone of such delicate tints that it was impossible to distinguish it from the natural product. The imitation of the more expensive species was found to cost far less than the natural and is made in any form desired—columns, plain or fluted, and capitals—as readily as flat slabs. The durability is said to be as great as that of the granite or marble. It was also found that it was possible to reproduce, by carving, a picture of the deceased person, in the imitation of marble, much easier and far cheaper than the work can be done with the genuine article.

"The consequence has been that the desire to have the features of the dead ones has become somewhat general in the little Danish Kingdom, and is reported to be rapidly spreading throughout the Continent.

"A prominent uptown tombstone cutter, when asked about the new fad, said: 'American stonecutters have been keeping a sharp eye on the grim foreign fad, but as yet have seen but few signs of it spreading to this city. As soon as it gets generally known, however, I suppose families will adopt it here also. In fact, I will be much surprised if we are not overrun with orders when the craze reaches America. The only drawback is the fact that imitation marble is not used to any great extent here, and it is a very expensive matter to reproduce a face in the genuine article.'"

In the North Carolina Field.

SALISBURY, N. C., January 10.—A company has been formed lately, consisting of Salisbury business people, to open and operate granite quarries near Statesville, N. C., on an extensive scale for getting out crushed stone. Perhaps an artificial stone plant will be erected there early in the spring. The quarries are located at Hiddenite, where the finest North Carolina Gem is found, called the Hiddenite, being discovered by a man of the name Hidden, of New York City. This gentleman formed a company for getting out this exclusive "North Carolina Gem," but cannot by far, supply the demand for this stone for the jewelery trade. Mrs. Marie Louise Wyatt will at an early date make preparation for the output of this gem on one of her mining propositions in that section. Mrs. Wyatt lately opened a new quarry consisting of a superior pearl white granite. The first contracts secured for this granite were the engine foundation beds for the custom house and post office at San Francisco, Cal., which are of an unusual size and the finest of workmanship.

The Raymond Granite Co. had the contract for the building stone, the Bentley Construction Co., Milwaukee, Wis., the general contract, and Jos. McWilliams & Co., of Louisville, Ky., the engines.

Mrs. Wyatt inaugurated the opening of her Pink quarries last spring with the output of one of the largest vaults built in the North, also Dimension stone for two monster monuments, which were sent to Quincy, Mass., to be worked by sculpturer Barnicourt, of that place.

The North Carolina Pink Granite Co., who bought their quarries from Mrs. Wyatt, early this summer, are working at the present with a reduced force, as they are contemplating the erection of a railway to the quarries.

The Withney Reduction Works have closed up quarry operations for the winter, but will reopen full-fledged next spring to get their immense contract for the Narrows dam, which will occupy them several years.

The stockholders of the American Granite Co., Equitable Building, Baltimore, Md., held their meeting early in January and re-elected the following officers: Wm. H. Evans, president; Wm. T. Stilwell, vice president and treasurer, and Joseph P. Tully, secretary.

Clay.

Illinois Clayworkers Meet.

The association season is on with the clay workers and a number of State associations have already met and the National Association is booked to meet February 2 to 7.

The Illinois clayworkers' Association held its twenty-fifth annual convention in the Illinois Hotel, Bloomington, Ill., January 6 and 7. A number of interesting and valuable papers were read at the session, which we hope to give at some length in another issue of ROCK PRODUCTS, but for the present space compels us to give only a synopsis of the meeting and the names of the writers and subjects treated of in the different papers presented.

The first session of the meeting was called in the afternoon of January 6, by President W. S. Purington, and Mr. E. M. Heafer, of Bloomington, Ill., made an address of welcome to the visitors on behalf of the local members.

This was followed by President Purington's annual address ,and he was followed by a discussion of the question of an exhibit at the World's Fair, which was submitted to the following committee on resolutions: C. C. Barr, Streater; Albert Solfisburg, Aurora; D. H. Heager, Dundee, Ill.

Next a paper was read from H. F. Townsend, Lewiston, Ill., on "What Does the Present Coal Situation Point to for the Clayworkers?"

After a general discussion of this paper, there was a paper by Fawcett Plumb, of Streater, Ill., on "What is the Best Shape for Crowns of Round Kilns, One Quarter or One Half Circle, and Why?" Quite a lengthy discussion followed this paper, and then came the subject of "How to Overcome the Effects of Alkali Most Cheaply in Common Brick," by H. De Joannis, Chicago, Ill.

While the first paper drew out general discussion, this drew out general discussion of quite a lengthy character.

The next number on the program was "Unloading Brick by Mechanical Conveyor," and the discussion was lead by President Purington. The last number on the program for the first session was a paper on "Tile Drainage," by E. M. Pike, which also enlisted quite a lot of general discussion.

At the second session, Wednesday morning, January 7, the first thing on the program was "Respective cost of drying ware with steam, direct heat and waste heat," by H. A. Endaly, of Springfield, which proved to be one of the most interesting papers read at the meeting, and was, therefore, the most extensively discussed of any. After the discussion of this paper came a paper by J. A. Rankin on "Experience in brickmaking from 1858 to the present time."

This was followed by a paper on " Factory Construction" by H. B. Tefft, Consulting Engineer, Chicago, Ill. Following this came "A Brickmaker's Dream," by O. W. Dunlap, Bloomington, Ill.

Mr. C. C. Barr, of Streater, Ill., was next on the program for a paper, and his subject was "Stripping Clay by Hydraulic Pressure." He was followed by E. M. Heafer, of Bloomington, Ill., on "The Clayworker's Smoke." This was the last paper on the program, and was followed by the reports of the secretary and treasurer, after which the Committee on Resolutions made its report, suggesting among other things that the Legislature be petitioned for $500.00, to assist in making an exhibit at the World's Fair. After this came the election of officers. Mr. E. M. Heafer, of Bloomington, Ill., was elected president; George J. Walters, of Chatsworth, Ill., vice president; G. C. Stoll, Bucyrus, Ohio, secretary; William Hammerschmidt, Lombard, Ill., treasurer.

There were neat little speeches by the officers and everybody seemed to go home feeling that this was one of the greatest meetings of a great association of clayworkers. The social features of the meeting included a trip to the local brick and tile factories, the delegates being piloted by E. M. Heafer, J. F. Evans and O. W. Dunlap. The first trip was to the E. M. Heafer Tile Co., where the visitors spent over an hour, during which Mr. Heafer was plied with questions. The next place visited was the Bloomington Pressed Brick Co., which was only a block away, and in a short time they were all enjoying the hospitality of O. W. Dunlap, who is manager. At this point shale from a coal mine is used, and mostly common and sidewalk brick are made. About an hour was spent at this plant, and as the other brick plants were out quite a way, being those of the McGregor Brick Co. and the Rankin Brick Co., they were not visited. There was a banquet also, that is usually the case at such meetings, at which an elegant dinner was served, and there was the usual amount of toasts and responses, bandinage and good cheer.

The members of the association are as follows: Joe Rehely, Auburn, Ill.; A. C. Solfisburg, Aurora, Ill.; A. L. Solfisburg, Aurora, Ill.; Jasper Adams, Battle Creek, Mich.; L. H. Lambert, Beaverville, Ill.; J. J. Kloess, Belleville, Ill.; William Kloess, Belleville, Ill.; E. M. Heafer, Bloomington, Ill.; J. A. Rankin, Bloomington, Ill.; Dunlap Manufacturing Co., Bloomington, Ill.; G. C. Stoll, Bucyrus, Ohio; J. M. Mamer, Campus, Ill.; Fred Titterington, Carbon Cliff, Ill.; George J. Walters, Chatsworth, Ill.; E. M. Pike, Chenoa, Ill.; H. B. Tefft, Chicago, Ill.; Geo. A. Barnes, Chicago, Ill.; H. DeJoannis, Chicago, Ill.; J. W. Robb, Clinton, Ind.; Leader Manufacturing Co., Decatur, Ill.; D. C. Heager, Dundee, Ill.; L. H. Martin, Dwight, Ill.; W. M. Pratt, Earlville, Ill.; F. R. Carter, East Peoria, Ill.; Fuestermaker Bros., Ellsville, Ill.; U. S. Brick Press Co., Erie, Pa.; D. H. Arbogast & Son, Farmer City, Ill.; Minor Beardsley, Findlay, Ohio; W. S. Purington, Galesburg, Ill.; J. D. Gledhill, Galion, Ill.; Wm. Hammerschmidt, Lombard, Ill.; H. M. Baldridge, Illiopolis, Ill.; C. & A. Potts, Indianapolis, Ind.; T. A. Randall & Co., Indianapolis, Ind.; F. R. Hansen, Lexington, Ill.; F. A. Martin, Mazon, Ill.; Oscar Frazee, Moweaqua, Ill.; Omer Smith, North English, Ia.; L. C. Farnam, Pawnee, Ill.; D. H. Jansen, Pekin, Ill.; Charles Zoeller, Pekin. Ill.; John Jansen, Pekin, Ill.; Robert Unziker, Peru, Ill.; Chambers Bros. & Co., Davis Brown, Philadelphia, Pa.; oke, Ill.; O. Atkinson, Rock Island, Ill.; A. S. Curry, Reddick Ill.; J. H. McCabe, Rushville, Ill.; Madden & Co., Rushville, Ind.; J. M. & M. Schmidt, Secor, Ill.; H. A. Eudaly, Springfield, Ill.; Fernholtz Brick Macy. Co., St. Louis, Mo.; C. C. Barr, Streator, Ill.; F. Plumb, Streator, Ill.; A. C. Hugenberger, Tallula, Ill.; H. Brewer & Co., Tecumseh, Mich.; Oliver Tilsbury, Towanda, Ill.; J. P. Hall, Tuscola, Ill.; C. O. Swift, Waverly, Ill.; A. E. Gregg, Waverly, Ill.; F. E. Swift, Washington, Ia.; G. T. Spalding, Waukegan, Ill.; D. A. Farnam, Zenobia, Ill.

The Standard Fire Brick Co., Pueblo, Colo., was quite extensively described in a local daily paper out there the first of the year, the description being accompanied by a picture of the plant and also pictures of the officers of the company. The company was incorporated in 1890 and has had a very prosperous career. The officers are F. L. Capers, president; John A. Thatcher, vice president; M. D. Thatcher, treasurer; A. S. Booth, secretary, and F. J. Helwig, manager of the plant. The plant turns out 80,000 fire brick, 90,000 pressed brick and 75,000 paving brick a day, besides some side lines. A plant is being installed at the present time to manufacture sewer pipe. The company has Denver offices and warehouse at 1337 Champa Street, and not only handle their own goods, but do a jobbing business in all kinds of crucibles, tile. bone ash, porcelain, chemicals, chemical apparatus, etc.

It is reported that the National Fire Proofing Co., Pittsburg, Pa., is at the head of a proposition to consolidate the interests of a number of clayworking industries, including the American Sewer Pipe Co., of Akron, Ohio. The capital stock of the National Fire Proofing Co. is given at $12,500,000.00 and the officers and directors are as follows: D. F. Henry, president; W. D. Henry, vice president and manager; W. H. Graham, treasurer; C. G. Jones, secretary; J. J. Booth, S. C. Grier, T. J. Hamilton, E. B. Alsop, Adam Wilson, Frederick Gronmer, Jr., and W. A. Drinker. Its factories are located at East Palestine, Ohio, Pittsburg, Pa., Port Murray, N. J., and Revere, Mass. Besides the company controls the International Clay Manufacturing Co., of Perth Amboy, N. J. In June, 1901, the company acquired the Canton Fire Brick Co., a Canton and Osnaburg, Ohio, the Lorillard Brick Co. and the United States and Empire Co., at Raritan.

HERE AND THERE IN THE CLAY FIELD.

Adolph Kunz has erected a brick plant at Stockton, Cal.

The London Builders Supply Co., London, Ont., Canada, will erect a brick plant.

E. E. Ferson and T. W. Marble will open a brick yard at Sunnyside, Oregon, this spring.

The Steger Brick Co., has been incorporated at Huron, S. D., with a capital stock of $25,000.00.

Superintendent Shaw, of the Nina (N. Y.) Brick Works, is overhauling and remodeling the plant.

The Standard Tile Co., Detroit, Mich., has increased its capital stock from 100,000.00 to $200,000.00.

The Southern Fire Brick and Clay Co., Chicago, Ill., has increased its capital stock from $100,000.00 to $125,000.00.

The Gold Bros. Brick Co., Big Stone, S. D., has a contract to furnish 1,200,000 brick for a brick building at Aberdeen.

The Collingwood Brick Co., Toledo, Ohio, is figuring on building a new plant this spring and adding new machinery.

The Keystone Fire Clay Co., which had a plant at Fogelsville, Pa., that was destroyed by fire several months ago, is now rebuilding.

The brick plant of W. W. Taylor & Son, First and Galliss Streets, Kansas City, Mo., was destroyed by fire January 7. Loss, $10,000.00.

J. V. Rose & Son, Sharon, Pa., are enlarging their fire brick works and are adding machinery to increase the capacity to 125,000 a day.

The Boyne City Brick Co., Boyne City, Mich., has discovered a bed of shale on its property, and will add a paving brick plant to its equipment.

B. J. Thompson, Buffalo Center, Iowa, has discovered a fine bed of clay on his farm and will make efforts to organize a company to develop it.

The Stoneware Pipe Co., at East Alton, Ill., which had its plant destroyed by fire in June, has now completed the work of rebuilding and equipping.

Patrick Lillis, who has a brick yard at Port Jefferson, Long Island, has made arrangements to sell 1,000 tons of fire clay this winter to Connecticut parties.

The brick yards of the New England Steam Brick Co., at Barrington, R. I., have been suffering from a coal famine which compels a temporary closing of the works.

The Blackhawk Brick Co., has been incorporated at Rock Island, Ill., with a capital stock of $40,000.00. The incorporators are: Alfred E. Green, A S. Wallace and Moses Rothchild.

The Taylor Brick Co., has been incorporated at Houston, Texas, with a capital stock of $50,000.00. The incorporators are: W. H. Taylor, J. C. Wilson and B. J. Dodge, all of Houston.

The Elnora Brick and Tile Co., Elnora, Ind., has been incorporated with a capital stock of $10,000.00. The incorporators are: A. H. Dillon, Harvey Hastings, F. D. Dillon and S. A. Whitman.

The plant of the Edinburg Brick Co., Sharon, Pa., was sold by the sheriff January 13 to H. J. Orth, of Pittsburg. Mr. Orth was a partner in the company, which formerly operated the plant.

The Morris-Wilmore Co., has been incorporated at Trenton, N. J., with a capital stock of $100,000.00, to manufacture pottery, porcelain, etc. The incorporators are: Wm. T. Morris, Francis R. Wilmore and Chas. E. Osborne.

The Hackensack River Brick Co. has been incorporated at Hackensack, N. J., with a capital stock of $200,000.00. The incorporators are: David St. John, Samuel Taylor and James W. Gillies, all of Hackensack, N. J.

The Cape Girardeau Pressed Brick Co. has been incorporated at Cape Girardeau, Mo., with a capital stock of $20,000.00. The incorporators are: A. R. Pondler, R. W. Flentge, M. E. Leming. L. J. Albert, J. F. Brooks and others.

The McLeod Manufacturing Co. has been incorporated with offices at 419 Market Street, Camden, N. J., with a capital stock of $100,000.00, to manufacture brick, tile, etc. The incorporators are: Alphonsus Ceres, William E. Jones and George H. B. Martin.

Bruce Crow and others will erect a brick works at Cameron, W. Va.

The Carey Brick Works, Cohoes, N. Y., are putting in a new drying system.

W. G. McNally, Canton, Ga., and others contemplate developing talc mines.

James McBurnette, of Wedowee, Ala., will develop kaolin and mica property.

The plant of the Rutland Fire Clay Co.,Rutland, Vt., was destroyed by fire December 13.

The Benton Brick Co. has been incorporated at Benton, Ark., with a capital stock of $12,000.00.

C. E. Smith, of the Louisiana Geological Survey, is making an active study of the clays of that State.

The Ohio Stoneware Co., Akron, Ohio, has increased its capital stock from $12,000.00 to $50,000.00.

The Johnstown Pressed Brick Co. has been organized at Johnstown, Pa., with a capital stock of $100,000.00.

The Chase City Granite and Clay Pottery Co. has been organized at Chase City, Va., with a capital stock of $25,000.00, to develop granite quarries.

The Zanesville (Ohio) Filter and Pottery Co. has been incorporated with a capital stock of $20,000.00. The incorporators are: J. Bolin, M. A. Bolin, H. S. Allen, C. E. Swingle and J. R. McConnell.

The Boone (Iowa) Brick, Tile and Paving Co. was one of the new industries in the field the past year, manufacturing during the year three million and a half building brick and about one and a half million paving brick.

The Yankee Hill Brick Manufacturing Co., Lincoln, Neb., of which S. W. Burnham is manager, will be ready to begin operations by March 1. The company has spent about $40,000.00, in new machinery to manufacture pressed brick.

D. E. Reagen is the new president of the Ayer-McCarel Clay Co., Brazil, Ind., who manufacture Brazil hollow blocks for building foundations. The other officers of the company are: W. L. McCarel, manager; and J. V. Ayer, secretary-treasurer.

The Malakoff Pressed Brick Co. has been incorporated at Malakoff, Tex., with a capital stock of $5,000.00. The officers of the company are: H. L. Flagg, president; J. A. Griffin, vice president; G. B. Thompson, secretary-treasurer, and T. S. Bartlett, manager.

The Chippewa Brick Co., Sault Ste Marie, Mich., has closed its plant for the winter, but will start up as soon as the weather will permit in the spring with additional facilities. This company recently absorbed the Stroebel Brick Plant, which will also be enlarged and operated next year.

The McKees Rocks Brick Co. has been incorporated at McKees Rocks, Allegheny County, Pa., with a capital stock of $10,000.00, to manufacture brick, the incorporators are: William Dunn, O. D. Cotton, Bernard P. Dunn, John J. Dillon, McKees Rocks, Pa.; D. J. Beckley, Pittsburg, Pa.

The Bell Pottery Co., Findlay, Ohio, has reelected its former officers to serve for the ensuing year, and also elected the following board of directors: Mr. Frederick, of Pittsburg, Mr. Milligan, of Steubenville, Mr. Frey, of Columbus. William McClure and Edward Bell. Mr. Frey took the place of William Bell, deceased.

The Missouri Brick and Tile Co. has been incorporated with a capital stock of $200,000.00, to manufacture brick, tile, etc. The principal officers are at the Corporation Trust Building, Jersey City, N. J. The incorporators are: Horace K. Devereaux, Eugene A. Sunderlin and K. K. McLaren.

The Robinson Clay Product Co., has been incorporated under the laws of Maine with a capital stock of $2,000,000.00. The officers of the company are: Henry Robinson, president; B. W. Robinson, secretary; and H. B. Manton, treasurer, all of Akron, Ohio. We judge from the reports that this company is the result of a movement to combine a number of sewer pipe concerns at Akron, Ohio, and vicinity. If this is the case, the firms interested are presumably as follows: Robinson-Merrill Pottery Co., Akron; The Crown Fire Clay Co., Canal Dover; The Royal Sewer Pipe and Brick Co., Milville; The Lockhaven Sewer Pipe Co., Lockhaven, Pa., and the Canton and Malvern Fire Brick Paving Co., Malvern, O.

The Mcleod Manufacturing Co. has been incorporated at Port Jefferson, N. Y., with a capital stock of $500,000.00, to manufacture brick by what is known as the McLeod continuous brick-making process and invention of H. C. Brown. The plant will be located about one and a half miles East of Northport.

The Montello Brick Co., has let contracts amounting to $250,000.00, for the erection of its new plant at Perkiomen, Pa. The plant, it is said, will have an output equal to the combined output of the plants at Montello and Wyoming.

The Standard Brick Manufacturing Co., has been incorporated at Evansville, Ind., with a capital stock of $40,000.00. The incorporators are: William Suhrheinrich, Henry C. Kleymeyer, J. E. Suhrheinrich and Herman Bredencamp.

The Kentucky Fire Brick Co. is a new company in Kentucky, of which Judge S. S. Savage, of Ashland, Ky., is the head and which was organized to take over a number of clayworking interests. It is said that they have purchased the plants of the Iron Fire Brick Co., at Ironton, Ohio, and Wayward, Ky. Also the Park & Austin Brick Co., at Ironton and a fire brick plant at Ashland, Ky. The company is incorporated with a capital stock of $200,000.00, with Judge Savage as president; and Ethelbert Gartrell, of Normal, Ky., secretary-treasurer.

England Takes to Modern Methods.

Eastwood & Coy, of London, England, who have a brick works at Sittingborne, are operating a new process for stock brick-making. The present plant is said to be only an experimental one, but it is their intention to build a permanent plant to manufacture by this new process in connection with their regular brick-making. The process is described in our England exchanges in substance as follows:

"Instead of moulding the bricks by hand, one at a time, the bricks are moulded by machinery, six in a mould, and this is the first departure from the old system, the preparation and soiling of the clay being as of yore, that is to say, the earth is dug up, and prepared with a mixture of ashes and the necessary amount of chalk, as has obtained in stock brickyards for generations past. The prepared earth is mixed in the pugmill on the same principles as the old, but from this point to the completion of the process, all is new. It will be seen, therefore, that if the effect of the machinery in making, drying and burning, is the same as that of the old process, a genuine London stock brick will be the result. It is not in any sense to be an imitation stock brick, nor a brick to substitute for a London stock, but it is the genuine article produced by modern methods. There is little to be said on the question of drying by this process. It is effected by a tunnel dryer, heated by exhaust steam to temperatures varying from 45° to 200° Fahr., this part of the process being effected in 24 hours. The highest point of temperature is not sufficient to drive off all the mechanically combined water. It is, however, obvious from the burning process that the drying process is sufficiently well accomplished. At the end of 24 hours, the brick from a 9⅞ mould is reduced to 9¼, and about 25 per cent. of the weight of the brick is evaporated. The tunnel dryer holds about 20,000 bricks, which are arranged on cars holding in their racks 192 bricks each. On leaving the dryer the bricks are placed upon a truck constructed with a firebrick base, and run into the kiln and burnt at a temperature of 900°. We are informed by the engineer in charge, that the average coal consumption was a cwt. per 1,000 bricks. The present kiln, which is of a continuous type, gives every appearance of successful working; it is fed from the top after the fashion of the Hoffmann kiln, and is covered over as a protection against weather. The capacity of the kiln is 60,000, and so far as can be estimated, the results are in all respects satisfactory. The color of the stock is excellent, and the number of the grizzles and place brick seems to be satisfactorily low."

Need Local Association.

An echo of the low prices of brick in and around New York is contained in the report that John W. Felter, a brick manufacturer of Haverstraw and Thiells, N. Y., who has been in the brick business for twenty-nine years, has had to give up and file a petition in bankruptcy. It looks like by proper local association some measure to prevent this deplorable state of affairs could be taken.

Fire Clay and Flint Rock.

J. M. Roberts, Patterson Springs, N. C.—I have some fine fire clay near the Southern railway I want to have sampled and tried by some reliable Brick manufacturer. Do you know who would want to buy white flint rock and what it is worth? I have a fine quarry of flint rock, small sizes and large. Is there any demand for it?

Will Make a Lot of Improvements.

Norcross Brownstone Co., East Longmeadow, Mass.—Business for 1902 was better than for 1901 and promises good for 1903. We shall make quite a lot of improvements this year, new electric crane, derricks etc., etc. There are no new quarries opened near us.

Did Very Well.

L. E. Noren, St. Cloud, Minn.—We got more granite out in 1902 than during 1901. We do not anticipate making any improvements and have no special line of work. Luchemeyer Bros., now Melrose Granite Co., of Melrose, Minn., are opening up quarries.

Only Run About Half the Year.

Rockcastle Quarry Co., Mt. Vernon, Ky.—There are no new quarries in this vicinity. We do not have enough work to keep us going over five months in the year. Plants are idle and have been for sometime. Output last year about 35,000 cub. yards at two plants.

Affected by a Car Famine.

The Urschel White Lime Co., Woodville, Ohio.—We are not doing much at the present time on account of a car famine, and must say that it is the worst car famine that we have ever seen. We wish you success with your paper, and must say it is the most thorough thing on the subject that we have ever read.

Will Build Some Railroad.

John Bichler, Groos, Mich.—As to your inquiry can say that we got out about one-third more stone last year than the year before. As to improvements, we propose to make a track into the quarry, which will cost considerable as we have to cross the Escanaba river. Our stone is not all used for building purposes. There are no new quarries in our neighborhood yet. Prospects are good for the coming year.

Here's a Challenge.

A report from Bangor, Pa., states that a record in brick making was made at W. S. Hellier's brick yard at that place recently. The crew, consisting of ten men and using a Henry Martin h. p. machine, such as has been used there for the last twenty-five years, undertook to see how many brick they could make in ten hours. The result was 46,000. The men consider this a record for that vicinity and would like to hear of any machine which can make more bricks with the same number of men in the same time.

Mica in Canada.

We have received a copy of a booklet entitled "Mines and Mining in Eastern Ontario, Canada," by Rendol Snell, in which, among other things, the mica industry is described as follows: Mica is a growing industry in Frontenac County, north of Kingston, where it occurs in large pits. It sells for about $100.00 to ton for electrical purposes. What is known as the Truesdale mine is five miles northeast of Sydenham, Ontario, and is operated by the General Electric Co., Schnectady, N. Y., with G. L. McNaughton manager. It turns out 1½ tons a day, and has been in operation three years. The Freeman mine, Loboro, is owned by Peter Freeman, of Sydenham, and turns out 400 pounds daily. The Goold Lake mine, Loboro, is owned by the Webster Co., of Ottawa, and employs 15 men. Stoness-Kent, in Bedford Township, is the largest producer in the whole district. This is owned by R. E. Kent and others, of Kingston. Eighteen men with steam drills turn out two tons daily. Ten men are employed in the factory dressing the mica. The Tett mine is said to be the second largest producer in Ontario, and sold $70,000.00 worth lately to one man. This is owned by Tett Bros., Bedford Mills. The McNally mine is in North Burgess Township, and operated by the West port Mining Co., of Westport. Output, one ton a day.

Fertilizers.

Greensand Marl.

The volume "Mineral Resources of the United States, 1091," just published by the United States Geological Survey, contains an interesting report on Greensand Marl by Mr. A. L. Parsons.

The use of greensand marl as a fertilizer has long been recognized as an important factor in the improvement of the soils of certain portions of this country and of Europe, but the extent of the deposits is not a matter of common knowledge. The deposits in the United States that are best known and have been most extensively developed are the marl beds of New Jersey. These beds, which are found outcropping in a strip extending in a northeast and southwest direction from Raritan Bay to the Delaware River, occupy a region about 100 miles long, with an estimated area of about 1200 square miles. In addition to these beds, this formation, it is safe to assert from the data known, underlies all of southern New Jersey at a considerable depth below the surface.

The continuation of these marl deposits through Delaware, Maryland and Virginia offers an inexhaustible supply of this material, which has been utilized only to a slight extent. The Northern border of the deposits extends from a point about 2 miles north of Delaware City through Chesapeake City to Chesapeake Bay at the mouth of the Sassafras River. On the west side of Chesapeake Bay the boundary is more irregular, but extends in a nearly direct line from Bodkin Point to the Potomac River at a point near Fort Washington, thence along the Potomac to Marlboro Point on the Virginia side of the river. A narrow deposit exists near the river on the Virginia side between this point and Mathias Point, but the main body of these deposits lies east of a north and south line from Mathias Point to the North Carolina line. The eastern boundary of the Virginia deposits is unknown, but the southern boundary of the Maryland and Delaware deposits is marked by an irregular line extending from Pope's Creek on the Potomac through Brandywine and Nottingham to Tracys on Herring Bay. On the east side of Chesapeake Bay the border is approximately a straight line from Norman on Kent Island through Rolphs and Millington, Md., and Townsend, Del., to Port Penn on the Delaware River.

The entire output last year was from New Jersey and Virginia, and by far the largest portion was from New Jersey, the total estimated production being 99,880 tons, with an estimated value of $124,880.

A striking difference in the use of the marl is shown in the producing States; the entire product from New Jersey is applied to the soil in the natural state, but the Virginia product is dried and ground for use in commercial fertilizers. In either case its value as a fertilizer depends upon the quantity of lime, phosphoric acid, and potash present.

The use of marl in the manufacture of commercial fertilizer, however, does not depend upon the value of the fertilizing elements contained so much as upon the ease with which it may be prepared for use. Marl, as a filler of commercial fertilizer, has the advantage over other materials in that it has in itself ingredients that in time, by decomposition, become valuable, and because, in addition, its first cost is no greater than that of other fillers which do not furnish these fertilizing ingredients.

A number of analyses are given, which show the composition of characteristic marls from New Jersey, Maryland and Virginia.

The Standard Chemical and Oil Co. has been incorporated with a capital stock of $500,000.00, to take over the holdings of the Troy Fertilizer Co. and the Standard Chemical and Oil Co., Troy, Ala., The officers of the company are: Fox Henderson, president; O. C. Wiley, vice president; L. H. Bowles, secretary.

Mt. Pleasant Notes.

The total movement of Phosphate from the Mt. Pleasant, Tenn., District for the months of September, October and November, 1902, was as follows.

	Domestic,	Export,	Total.
September	13,336	10,646	23,982
October	23,190	15,922	39,112
November	20,051	8,295	28,346

The car shortage is still giving shippers trouble, particularly the difficulty in getting cars for wood from the Lawrence Co. wood yards.

Domestic prices are very stiff, sellers holding firm at $2.95 and $3.00 for 75-5 and ½-3 and $3.25 for 78-5-3 for prompt delivery. Several buyers have visited the field during the past ten days and at least one contract was closed for 75-5 and ½-3 for near by delivery at $3.00.

It is reported that other contracts were closed at about that figure, but of this your correspondent has not positive information.

The state of the weather and the condition of the roads has reduced the output for this month to a very low point and as a consequence the stocks on hand are at a very low ebb. It is extremely doubtful if there is rock enough on top of the ground to fill the contracts already sold for February delivery. This situation cannot be materially relieved until there is at least two weeks of settled weather.

The Currie Fertilizer Co., Louisville, Ky., will rebuild the part of its plant destroyed by fire last month.

The Virginia-Carolina Chemical Co. will rebuild its plant, which was burned recently at Richmond, Virginia.

It is reported that John W. Huger is organizing a $1,000,000.00 stock company to build a fertilizer plant at Montgomery, Ala.

Mr. A. D. Ledoux, of the Tennessee Chemical Co., Nashville, Tenn., has been appointed sole agent in North America for the sale of Pyrites of the Rio Tento Mining Co., of Spain.

The Hampton Guano Co., Norfolk, Va., has been incorporated with a capital stock of $50,000.00, to manufacture and sell fertilizers and chemicals. C. W. Priddy is president of the company and J. T. Madrey, secretary-treasurer.

The Tuscarora Ferilizer Co. has been incorporated at Jersey City, N. J., with a capital stock of $25,000.00, to manufacture fertilizers. The incorporators are: Paul Tissen, H. O. Coughlan and and Louis B. Daily.

The Columbia Graphite Co. has been incorporated at Ticonderoga, N. Y., with a capital stock of $100,000.00. The directors of the company are: B. E. Tinstman, A. B. McGrew, and W. C. Wenterhalter, of Pittsburg, Pa.

The Western Construction Co. has been incorporated at Chattanooga, Tenn., to do a general contracting and construction business with a capital stock of $100,000.00. S. S. Flournoy, George E. Price and Harrison B. Smith are incorporators.

The Engineering and Construction Co., of Canada, has been incorporated with a capital stock of $500,000.00, at Montreal, Canada. The incorporators are: T. J. Davis, of Montreal; M. J. Haney, of Toronto; Roger Miller, of Ingersol; Fred R. Miller, of Ingersol; and J. R. O'Neal, of Cardinal.

The Alabama Flake Graphite Co. has been incorporated at Baltimore, Md., with a capital stock of $100,000.00. Those interested in the company are: R. H. Woodward, Y. M. C. A. Bldg., Baltimore, Md., R. L. Chamberlaine and others. The company will develop graphite property in Clay County, Alabama.

-The Pioneer Graphite Co. has been incorporated at Junction City, Wis., with a capital stock of $500,000.00, for the purpose of developing the Taggart-McDonald graphite and red mineral paint or iron oxide deposits at Junction City. The company proposes to erect a plant on the property and will make all the graphite and red mineral paint products now on the market. The officers of the company are: President, J. R. McDonald; vice president, Herman A. Vetter; secretary, F. E. Taggart; treasurer, Robert K. McDonald.

Concluded from page 14.

THE JOINT SESSION.

ing, and the balance crushed and finally ground in millstones.

This was, as can readily be seen, an extremely crude, expensive and unreliable method. Up to the time that the manufacture was taken up on the Continent, the only marked advances consisted in reducing the amount of moisture to 40 or 50 in place of 80 per cent., and grinding the slurry in millstones. This was a decided improvement, for the first essential of a high-grade cement is that the raw materials be extremely fine and uniformly incorporated. This constituted what is known as the Gorham or semi-wet process. It effected a material saving in time of evaporation. The so-called "wet mills", or marl plants in America use this system so far as preparation of raw materials is concerned; the burning, however, being done very differently as will be explained later.

The only other improvement during this period was the substitution of chambers or flues, through which the waste heat of the kilns was drawn or forced, for the earlier drying floor. This change resulted in a considerable fuel saving. The cement of this period was irregular in character, little or no attempt being made towards chemical control and natural cements were still largely preferred for important work.

As soon as the manufacture was taken up on the Continent, improvements began to appear; these being largely due to the more careful chemical supervision given the industry. Instead of roughly dumping the materials together, accurate methods of weighing or measuring were introduced and provisions were made for correcting in case of error in proportions. Gradually harder materials began to be employed, and it was found that a dry system of grinding was more economical when they were used.

The enormous fuel consumption and small output of the earlier kilns was investigated and more economical continuous kilns introduced. The first of these were much like the intermittent kilns except for increased height and draft, and provision for a regular drawing of the clinker while fresh material and fuel were added. As the height and draft were increased it was found that rough lumps of dried mud would not "carry the burden," to borrow a blast furnace term, and brick machines were introduced to press the partly dried (or in the case of dry process mills, the dampened powder) into bricks. Three special kilns introduced during this period deserve special mention.

The Dietzsch consists of a combination of reverberatory hearth and stack. Air is drawn through the hot clinker over the reverberatory furnace and the products of combustion pass through the fresh material being charged, with consequently marked fuel economy.

The Schoefer Kiln is of similar principle but simpler construction, the reverberatory hearths being omitted. In the Aulborg plant cement has been produced in these kilns on a fuel consumption of between 40 and 50 pounds per barrel.

The Hoffman kiln or "Ring Ofen" is also used to some extent in Germany. They are huge affairs, consisting of a circular tunnel about a high central stack with which it is connected through numerous flues. The placing of the brick, burning, cooling and drawing goes on continuously. The same regenerative principle is employed as in the Dietzsch and Schoefer kilns, and very low fuel consumption maintained. The labor cost is excessive and while both Schoefer and Dietzsch kilns have been used to a limited extent in American mills, no Hoffman's have for burning cement. though some are being used for other purposes. The well known Dieckerhoff cement for which Mr. Thiele has done so much in the country, is burned in kilns of this type.

The Continental manufacturers also introduced improved methods of reducing clinker; dry pans, rolls and finally ball and tube mills gradually replacing the buhrstones originally employed. Buhr mills, while doing excellent work on materials of moderate hardness, are not adapted to such an abrasive substance as portland cement clinker.

As in England, Continental development was for a time slow, but with the industrial development of Germany, following the Franco-German war, progress became rapid, and to Germany is due the credit of reducing the earlier haphazard methods to a scientific basis, vastly improving the standard of output and introducing economics in manufacture that permit marketing cement at a price before impossible. Germany and France have also led in showing the possibilities in the use of cement and concrete as building materials.

Then it was that the editor of ROCK PRODUCTS was called on tell an interested audience how they could gain profit and pleasure by education secured through organization and co-operation of the manufacturer and dealer. The other speakers were so brilliant that space could not be spared to print this talk.

Owing to the many sparkles of wit and wisdom flying around the presiding officer, he got the headache, and First Vice President C. E. McCammon had to take the chair.

The first man his eye lighted on was B. T. Becker, of Newaygo, Mich. Mr. Becker is a great believer in organization and has great faith in this organization. He wanted to speak from the back part of the room, but through the efforts of the delegates, he was ushered up to Secretary Kind's desk in the front, where he told of the organization of which he happened to be chairman, and worked in harmony with the Inter-State Association, from which came profit and harmony.

Then the real orator of the occasion, the man who talks with his hands and his feet, and reminds one of Senator Bailey, when he wishes to express himself, Mr. Bartlett, of Milwaukee, being short of stature, got on a chair and talked very strongly. He caught the crowd, because he told an Irish story about an Irishman who, when asked who killed John Smith next door, said: "Gentlemen, I don't know. I just moved into the neighborhood." "As far as the co-operation of the manufacturer and dealer is concerned, we will subscribe to anything that is right. We are with you heart and soul and I am sure you are bound to succeed from the interesting meeting you have held here."

One of the old timers in the business, John Dickinson, of the Alpha Portland Cement Co., Chicago, said: "I have been in and out of associations in the building supply trade for twenty-five years, and I believe the company which I represent, the Alpha Portland Cement Co., are with you to the end."

J. R. Patterson, of the Peninsular Portland Cement Co., Union City, Mich., said: "The Peninsular Portland Cement Co. are in sympathy with your movements and will be glad to co-operate with you."

C. A. Brockett: "I believe I must have some enemies here or I should not have been called on. I am a retailer, but I will be glad to co-operate with your manufacturers as I am part manufacturer myself. I believe there is good to come from this gathering."

C. H. Wood, of Chicago, said: "I am pleased to come up to the mourner's bench. I greet this organization with pleasure and will be glad to co-operate with it."

Mr. E. Thiele, the original importer of cements, was called on, and remarked—I am glad to be with you. I am always happy to meet the trade I do not think I need to explain my position in reference to a dealers' organization for my acts have ever been as a promoter of organized effort in doing business through the legitimate retailer."

C. S. Bigsby said he could sell mortar colors and give away nice fobs with G. I. & S. Co. on them, but he could not make speeches. "However, our company is in thorough accord with this organization, and I am with you through thick and thin."

Ralph Peverley, the original sailor man, who talks about cement like Wall Street men talk about selling a million dollars worth of bonds, said: "I never make hot air preferred. In other words, I don't make speeches. I think it is evident that there is a need for this association and I would like to be one of the honorary members. I make a motion that the manufacturers present agree to become honorary members, as I understand this association has made this possible."

The motion was as follows: "Moved that the manufacturers present by this resolution express their sympathy, and their good wishes for the association and express their desire to become members."

The amens from the manufacturers present were lusty and plentiful.

Mr. B. L. Swett, Atlas Portland Cement Co., New York City, then made a few remarks in reference to the strength of this organization and said he was glad to be here.

G. B. Christian, in the modest way and melodious voice, said he should have the attention of every one present, because he was a christian. He expressed the thanks of the lime manufacturers association, and his personal thanks for the invitation to be present, and his best wishes for the organization. He believed all the manufacturers would be glad to co-operate with the dealer, and while some of them perhaps make mistakes, the general intention is to protect the dealer at all times. He was glad to see the manufacturer and dealer coming in closer contact, for it would serve their mutual interests to better advantage.

Mr. Brown, representing the Municipal Engineering Co., made a speech telling about his publication and his desire to be of assistance to the association, although he had just found out that a meeting was being held.

C. L. Johnson was brought in on a wheelbarrow and he said: "I don't think I better make a speech, because I'm afraid you'll have too much Johnson. I will say this, however, that the Castalia Portland Cement Co., Pittsburg, Pa., are body and soul with your organization. We are interested in helping the dealer. We have no contractor on our books, and we have never made any losses since our company was organized."

Vice President Willis said he thought the speeches of the afternoon had been inspirations, and moved that the meeting adjourn.

The secretary then announced that all were welcome to the banquet and he hoped all would be present.

THE BANQUET.

The banquet given by this association to its members, the dealers and visitors, was held at the Columbia Club.

The table was set in the shape of a triangle and was beautifully decorated with flowers and candelabra, and it presented a lovely scene.

Among those who responded to the toasts was C. W. S. Cobb, who said: "We have gathered here to-night from all parts of the country, representing a vast capital and a strong organization. This power and capital will bring returns to all, but at the same time, this association is launched on a sea of responsibility. We must go forward with all fairness to members of the craft and manufacturers. When we meet in July we hope some good work will have been accomplished and that we will greet with the hand of fellowship all those in the trade, but we must act fairly and handle the power that is ours with equity to all. This can not be done without hearing from every member in the trade, and if we follow the conservative lines, doing justice to all, we will aid all."

J. W. Dickinson told us a yarn.

We had an orator from the Falls of Niagara, Mr. Humbert, who said that he was glad to be present, and he thought the foundation was laid for a strong association. He said he came to the meeting with some trepidation, and told a story to illustrate his point. He said he knew all by sight, but did not know their names, but thanks to Secretary Kind, he knew them all now. He incidentally told us bunk story No. 12.

J. C. Burch, of the United States Gypsum Co., who is apparently an orator and a mighty good story teller, said that the association was built on a solid foundation, laid with concrete. The building was built of the best brick, and as we have the lime and can furnish the plaster, it ought to be attractive and substantial as well. "If you come to Chicago, remember that our latch-string hangs clear out into the street, and we will be glad to treat you royally."

J. S. Fuqua, St. Louis, Mo., said that it was his first meeting and he was very glad to be present.

Mr. Bartlett, on being called on by the toastmaster said: "This is no mean honor. I appreciate the opportunity to talk to you, although I know I am out of order." He passed a few compliments to the cement men, interspersed with some of his own great jokes, and had every one in an uproar. "I don't know what the object of this meeting is, but we are here for the thirty-third degree, and I am sure that results will be beneficial to the trade at large. We welcome the association to meet in Milwaukee next summer. We will have a committee meet you with the keys of the town and they will give you everything we have. If we don't give you a lunch out at the Milwaukee Cement Works, and if we don't fill you up with all the good things to eat and good things to drink, it won't be our fault, and I am only sorry that I am not a Gibson girl artist that I might paint a picture which would attract you to Milwaukee with a delegation three hundred strong."

J. N. Fairleigh, of Louisville, thanked the toatmaster for the pleasure of being present. He said he attended the first meeting and he thought the comparison was very favorable to the association. "I am thoroughly in accord with the aims and objects of the association, as stated by Mr. Cobb, and I hope to show you that we desire to co-operate with you. It is my sincere wish that you be able to carry out the objects of your association, and I think it is a well known fact that the building material should be distributed through the dealers."

John C. Robinson then told a good yarn.

Vice President McCammon then told a good story and illustrated his point by saying: "Don't sit on the bait, like the fisherman did, but push for all you are worth to make this association a grand success."

Our old friend, Ralph Peverley: "Before getting away from the serious relations of the manufacturer and dealer, I would like to see this organization embrace all the dealers in the country. I find these meetings very attractive, as I meet many of my old customers and some new ones, and it saves me a great deal of trouble. I have enjoyed this meeting very much, and I hope this association will come East for one of its gatherings, because I am sure we can show you a Portland cement factory which would please you, and I know it is the original one manufacturing sailor cement. He then concluded his story by telling us a story in French dialect which brought down the house.

Addison Clarke, Baltimore: "My impression of this meeting as a new member is a good one, and I must first congratulate you on the officers and strong board of directors which you have selected. In looking at our president and secretary I am reminded of a county officer in our county in Maryland who entered a contest to gain a prize as the most popular man. But which ever would get the umbrella, I am mindful of the fact that we have a right Kind secretary and that the president is the proper man to Kling to. I believe this association is the best thing that ever happened to the building supply trade in the United States for a long time."

Mr. H. U. Frankel, of Kentucky, was then called on, but unfortunately his train left in advance.

Hence the hospitable Mr. Kuhn, of Indianapolis, was called on to make a stump speech.

He said that he was like the editor of ROCK PRODUCTS. He was also embarrassed. In fact, he was like Mark Twain—"speechless." "In the early days of the association I paid very little attention to the matter, but when I heard that you were coming to Indianapolis I began to consider, and I am happy that I did so. I hope that all my friends in the trade will realize the benefits of this organization, besides it does me good to be with you. The opportunities of the dealer are equal to those when Ben Franklin was sent to France. He told a story about England and France each presenting a toast for his country, neglecting the new country which sent Franklin to the diplomatic post in France. When Franklin came to make his talk he said: "I propose that we drink a toast to Joshua. He is the man who commanded the sun to stand still." So it is with our association. Here is our opportunity. While it is a great pleasure to talk to you to-night I can not swear, like Bartlett, or tell a story like some of our illustrious speakers, but Indianapolis thanks you, one and all, for your presence. If I could suggest another thought it would be that you come again. We have a good summer resort and the citizens of Indianapolis will be glad to see you any time.

Mr. B. G. T. Burridge then told some very amusing stories, and said he was happy to be present.

When the session adjourned it was happy in the thought that this had been a very pleasant occasion, with no regrets, and all were delighted that they had been present.

[Note—For lack of space, we are unable to give in full all the interesting papers and talks made at these meetings, but next month we will try to pick up the dropped stitches.—Ed.]

The kilns of the New England Lime Co., at Redding, Conn., are closed down for the winter.

Walter M. Cowell, of Kenosha, Wis., is organizing a company to develop limestone property about 20 miles West of St. Louis, Mo.

The Kelly Island Lime and Tranportation Co., Cleveland, Ohio, is preparing plans to erect a new plant between Lakeside and Marblehead.

J. B. Adams, president of the Longview Lime Co,. Longview, Ala., tells us that he is building the best equipped lime plant in the United States.

The past season, which was the first season for Lyon Bros., of Menominee, Mich., to operate lime kilns, seems to have been a very successful one. The kilns have been closed down for the winter, but will be opened again some time in March.

DYCKERHOFF PORTLAND CEMENT.

E. THIELE,
Sole Agent.
99 John Street, New York.

SIDE TALK.

The office Supply Co., W. Main Street, Montpelier, Ohio, make a specialty of office supplies for monument people.

The Allis-Chalmers Co., Chicago, Ill., held their annual meeting of the board of directors January 15 and declared the regular quarterly dividend on preferred stock.

The Morris-Stoner Steam Granite Works, Toulon, Ill., sends out a neat calendar illustrating two youngsters who are traveling for the company and helping to advertise the Missouri red granite, which is their specialty.

The Rockland-Rockport Lime Co., Rockland, Me., is sending out an elegant calendar which has a neat illustration, the center piece of which shows a variety of their products. Their capacity is 10,000 barrels of lime a day, and they also belong to the up-to-daters who make prepared lime.

While in the office of Manager Bailey, of the New Albany Manufacturing Co., and talking stone machinery, we were informed by Mr. Bailey that he sold some machinery to the Cleveland Stone Co. for one of their plants about a year ago and just recently had an inquiry from them for prices on a couple of similar machines. He quoted prices and by return mail received orders for machines without further parley, which is evidence that the New Albany machines are not only good things, but the trade knows a good thing when they find it.

"Acinolite for Roofing—Twenty Years in Use," is the title of a booklet sent out by Joseph James, of Actinolite, Ontario, Canada, which contains descriptive matter relative to this roofing, together with a number of letters from users testifying to its quality. The booklet should prove interesting reading to dealers in building material. The agents are: M. W. Powell Co., Chicago, Ill.; Machwirth Bros Co., Buffalo, N. Y.; W. B. Lupton & Co., Pittsburg, Pa.; The Patterson Co., Toronto, Ontario; A. McArthur & Co., Montreal, Quebec.

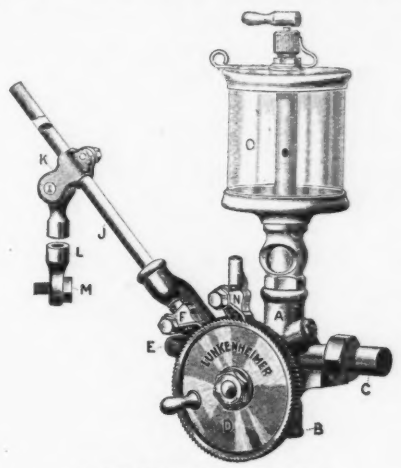
Galveston, Texas, is undertaking a job in construction work which it is said will require 5,200 cars of concrete, 100,000 tons of rock and 120 tons of re-enforcement rods in the erection of the great breakwater or seawall. The total cost of the entire project is estimated at $3,505,040.00, which includes an immense lot of filling. The contract for the seawall proper has been let to J. M. O'Rourke & Co., of Denver, Colo., who have established headquarters at Galveston for the present. This concern has already bought rock-crushing machinery which will be located at Granite Mountain, Tex. where the rock for this work will be crushed. In selecting material for this work, it was decided to use nothing but the best granite, sandstone and everything else is barred, but the best granite and cement. The wall will be 17-ft. high above mean low tide, and is being built to protect the city of Galveston against a repetition of the disaster of 1900. We have not space to give a description of the wall in detail, though we have been favored with a copy of the plans and specifications showing a cross section of the wall by Mr. W. A. Gardner, secretary of the Galveston Business League, and can only say that it involves work on the wall proper that is contracted to the company above mentioned at $1,294,755.00.

The Virginia Portland Cement Co. advise us that January 21 they moved into new offices at No. 68 William Street, New York City.

H G. Kotten, of New York, who is selling his new automatic tools all over the world, and getting so many orders that he don't know what to do with them, has recently gotten out a new tool known as a plug drill. It is a wonder.

The Goetz-Coleman Manufacturing Co., New Albany, Ind., tells us that their trade in joist hangers, box anchors and post caps increased 50 per cent last year, and the outlook is good for further increase this year. This company also builds gasoline engines.

Mr. David McKenna, Slatington, Pa., has favored us with a calendar which is evidently a section from a juvenile floral parade, which has two little ones coasting on a flower bedecked "express" wagon. Mr. McKenna is a manufacturer and dealer in rough slate, slate blackboards, structural slate and all other slate goods, and if you will write him he will be glad to send you a copy of his little booklet, "All About Slate."



A MECHANICAL OIL CUP.

A Mechanical Oil Cup.

Being always alert to the demands and requirements of the trade in their line, the Lunkenheimer Co., Cincinnati, Ohio, have, after considerable study and experimenting produced and put on the market a mechanical oil cup which is illustrated herewith. This cup furnishes a positive and reliable method of lubrication, and enables the user to gauge the amount of oil going into the cylinder, and to positively put it there.

Referring to the illustration it will be seen that the driving mechanism is of the ratchet type, and is operated by the clutches F and N that work cooperatively by the motion of the rod J, which can be attached to the eccentric rod, or other moving parts of the engine, by the couplings K and M. The motion thus obtained is transmitted to the piston E by the crank-pin mechanism H. and G.

The ratchet wheel D is provided with a handle whereby it can be rotated by the hand in case it is desirable to force a quantity of oil at any time, as, for example, when starting the engine.

Information Bureau

A Few of the Direct Inquiries Made to the Office of Rock Products During Last Month.

419.—We are in the market for large crusher.

420.—We intend to install complete quarry plant, also a 75 ton derrick of the latest and most improved type.

421—We expect to put in a large derrick and hoisting machine.

422.—I am contemplating putting in crusher this year.

423.—We will put in new stone-crushing plant, and will build new shed with hand traveller for stone cutters.

424.—We are in the market for electric crane and derricks.

425.—We want a mixer to use in our stone plant to mix perfectly sand and cement before putting into pressed stone.

426.—We want information regarding steel blades for marble.

427.—We want the addresses of firms selling the following marbles: Green, antiques, mosaic, onyx, Georgia and Italian marbles.

428.—We are in the market for foundation slate.

429.—We want mortar colors.

430.—We are in the market for natural and Portland cement.

431.—We need watchman's clocks.

432.—We would like to know at what price per ton crushed granite for sidewalk purposes could be delivered at Marion, Ill. We will need several carloads this year.

433.—We want estimates on the best Portland cement per barrel in cloth bags, delivered at Marion, Ill.

434.—We are in the market for lime barrels.

435.—We contemplate the erection of two derricks, one boom, one at quarry and one steel crane at mill, capacity 20 tons; also one nine ft. planer.

436.—We are in the market for second-hand h. p. or hand derricks.

437.—We wish to communicate with manufacturers of mortar stains.

438.—We want a sand dryer.

439.—We want a market for a good gray pressed brick, also a good mottled brick.

440.—I am in the market for a good gasoline or kerosine engine of reliable make.

441.—We are in the market for brick.

442.—We want lime.

443.—We are in the market for plaster.

444.—We want tile roofing.

445.—We need stone.

446.—We are in need of paving stone.

447.—We are in the market for builders' material.

448.—We are in the market for fireproofing.

449.—We want bags.

450.—I want belting.

451.—Where can we get hose?

452.—We are in the market for paint.

453.—We need pipe.

454.—We want a stone measurer.

455.—We want telephones.

456.—We are in the market for tanks.

457.—We contemplate putting in some patent kilns this spring.

458.—I wish to contract for five or ten thousand barrels of Portland cement.

459.—We desire information regarding machinery for the evaporation process of brine.

460.—I am in the market for monuments.

461.—I want mortar colors.

Wanted and For Sale

One insertion, 25c a line; Two insertions, 50c a line; Three consecutive insertions with no change in the composition, 56c a line. Count eight words to a line; add two lines for a head.

WANTED—MACHINERY.

MARBLE MACHINERY.—Either new, or second-hand. Address G. care ROCK PRODUCTS.

WANTED—POSITION.

A SMALL SUM invested in a concisely-worded description of what you want *right here* will no doubt secure you numerous replies and find that desired position for you quickly.

FOR SALE—PLANT.

LARGE STONE QUARRY—25 solid acres of best North Carolina granite, together with 100 acres good timber land, for sale at a sacrifice. Address B. A. FESPERMAN & CO., Rockwell, North Carolina.

THE CHEROKEE BRICK AND TILE WORKS—In first class condition, doing a good business. Address D. W. TOWNSEND, Cherokee, Iowa.

LET US SELL that plant for you. See head of department for rates.

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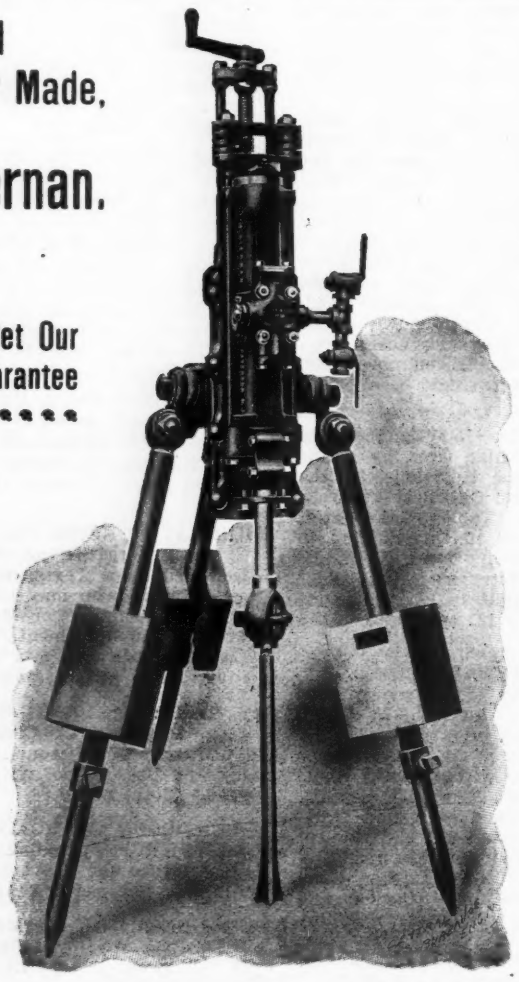

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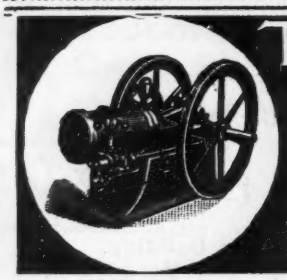

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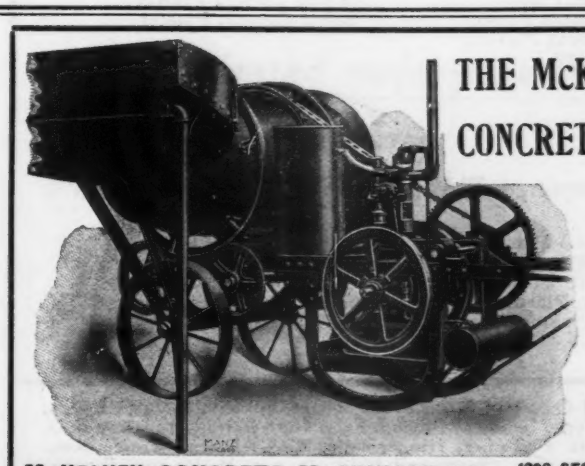

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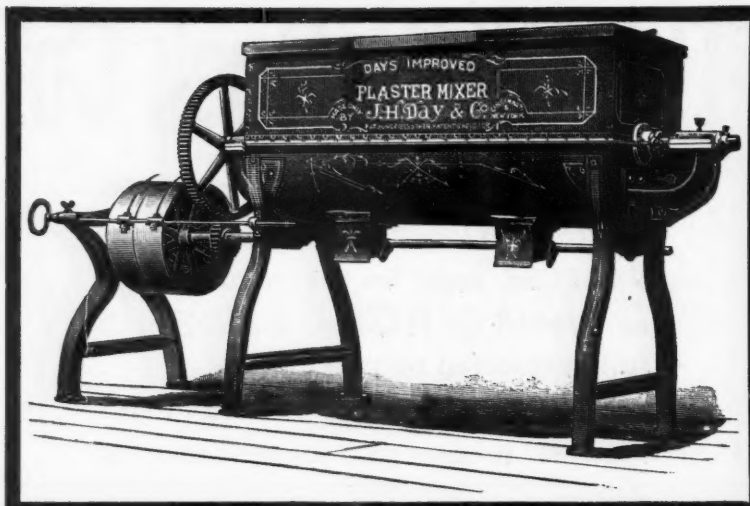

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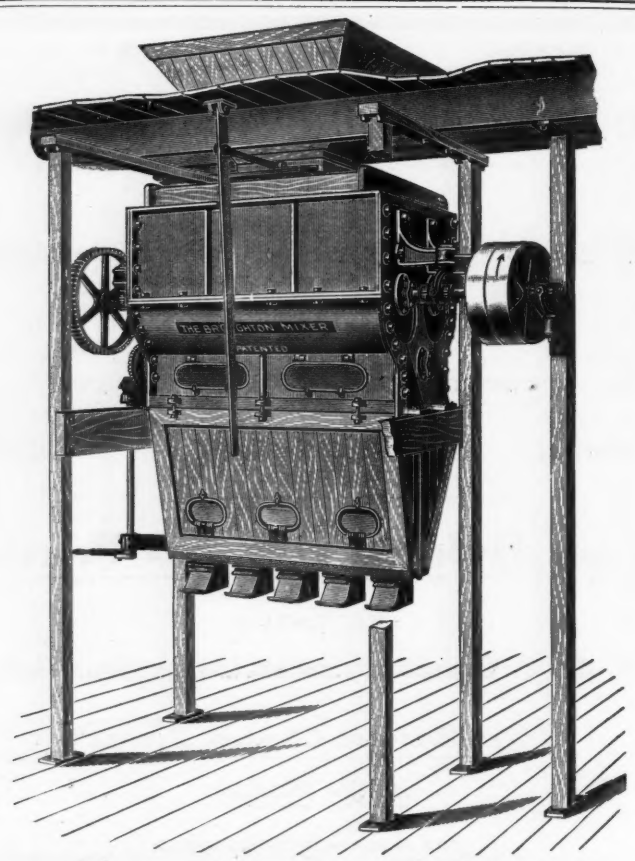

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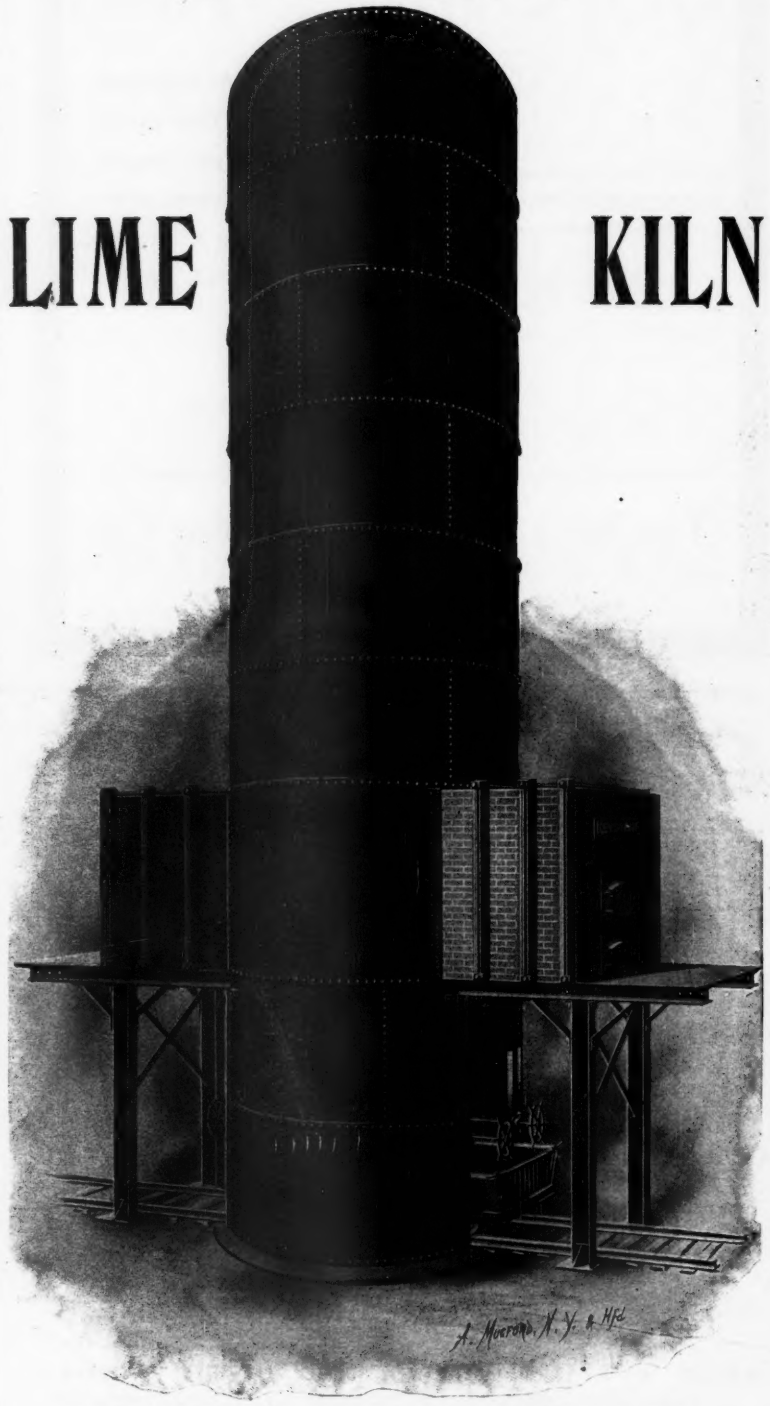

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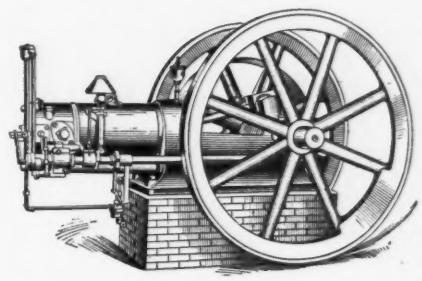

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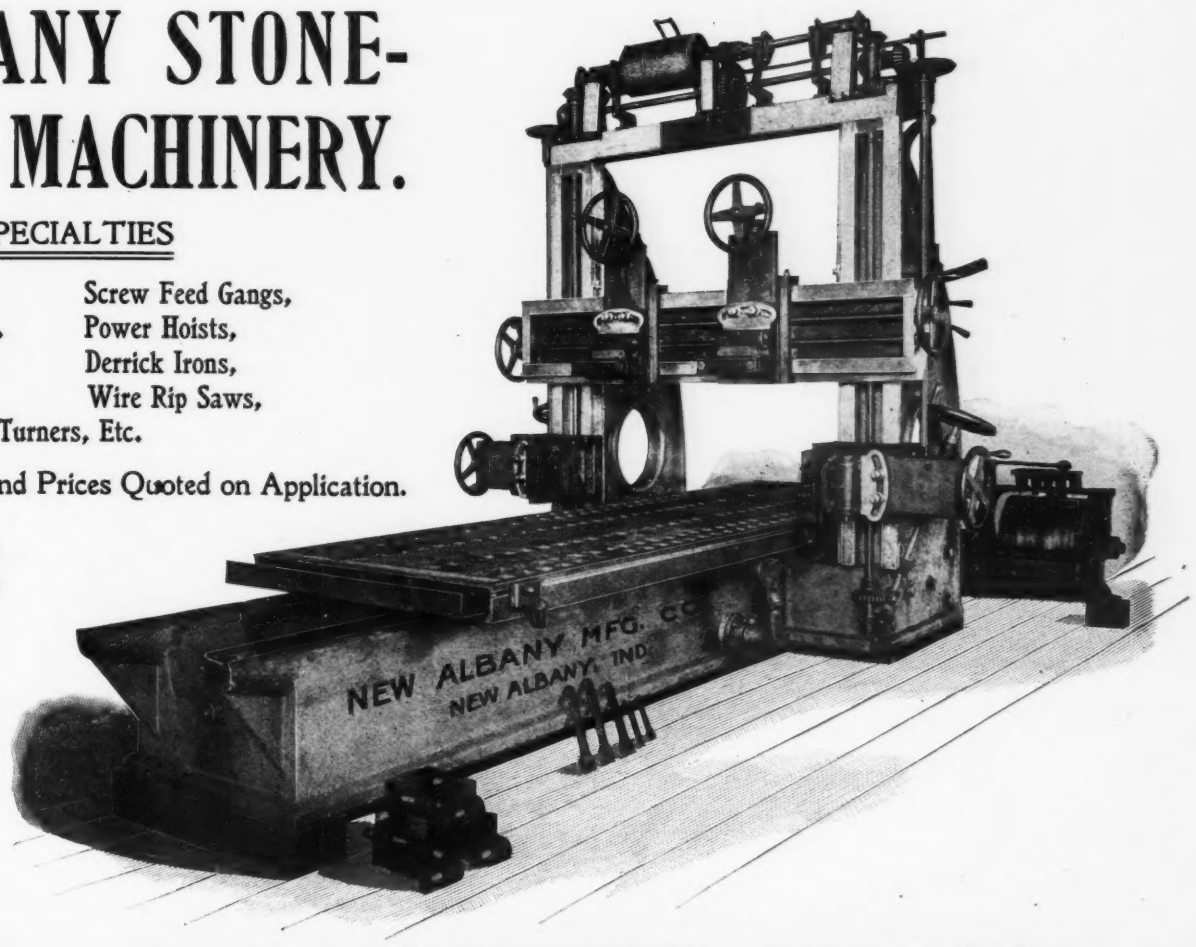

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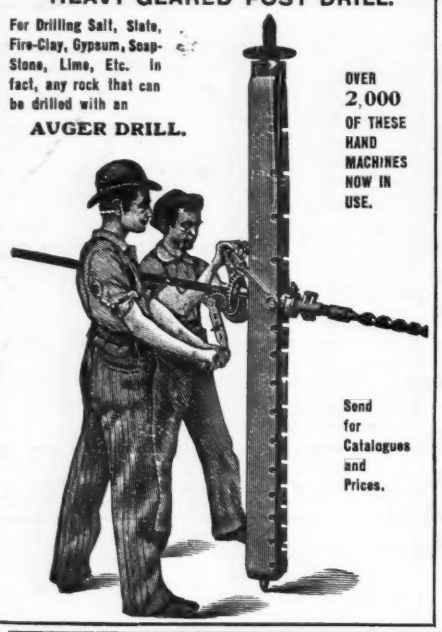

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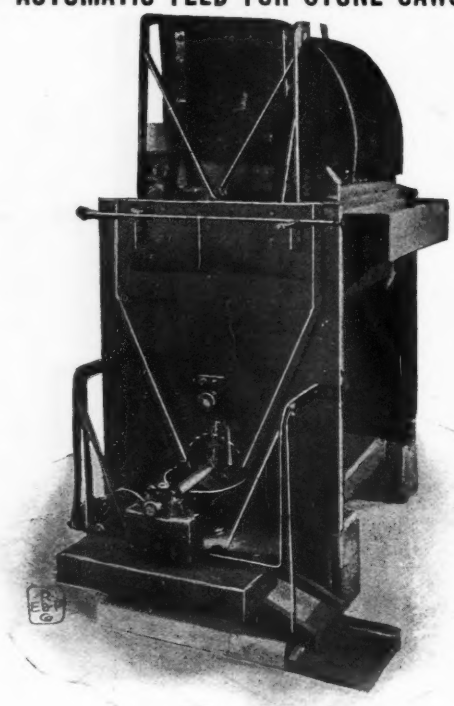

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